1977 REPORT

OF THE

DROUGHT CONSERVATION PROGRAM

Prepared by

UTAH STATE ASCS OFFICE
125 South State Street, Room 4239
Salt Lake City, Utah 84138

DROUGHT CONSERVATION PROGRAM

The President signed legislation on May 4, 1977, implementing the Drought Conservation Program (DCP). The objectives of the DCP were to provide emergency assistance to farmers and ranchers needed as a result of the drought to:

a. Build or restore the productive capacity of the soil;

b. Conserve agricultural water;

c. Prevent other environmental problems resulting from wind erosion and other extended drought problems.

All counties in Utah, except Salt Lake, were designated as drought areas eligible for assistance under DCP. The State of Utah received $11,800,000 in DCP funds. These funds, in turn, were allocated to each county. Cost-share levels of up to 80 percent of the cost were authorized.

At the local level, the program was administered through the farmer-elected committee system. The committee consists of three (3) local farmers who are elected by other farmers in their county to serve in this position. The county committees were responsible for:

a. Determining the priority of soil or water conservation problems for which assistance is requested;

b. Estimating costs of practices;

c. Determining cost-share levels;

d. Economic circumstances of the applicants, and other factors.

The Soil Conservation Service provided the technical assistance needed for the program.

Except for certain modifications, the DCP was administered similarly to the regular Agricultural Conservation Program (ACP). The average annual allocation under ACP in Utah is approximately $1.8 million. The funds under the DCP are also administered by the local county committees.

The State and each county's participation and activities under the DCP are summarized in this report. In addition, one or two selected projects in each county, showing pictures and specific details on accomplishments, are included.

UTAH STATE ASC COMMITTEE

Boyd W. Munns, Chairman
Dean W. Anderson, Member
A. Leon Thayn, Member
C. Dennis Funk, Ex Officio Member

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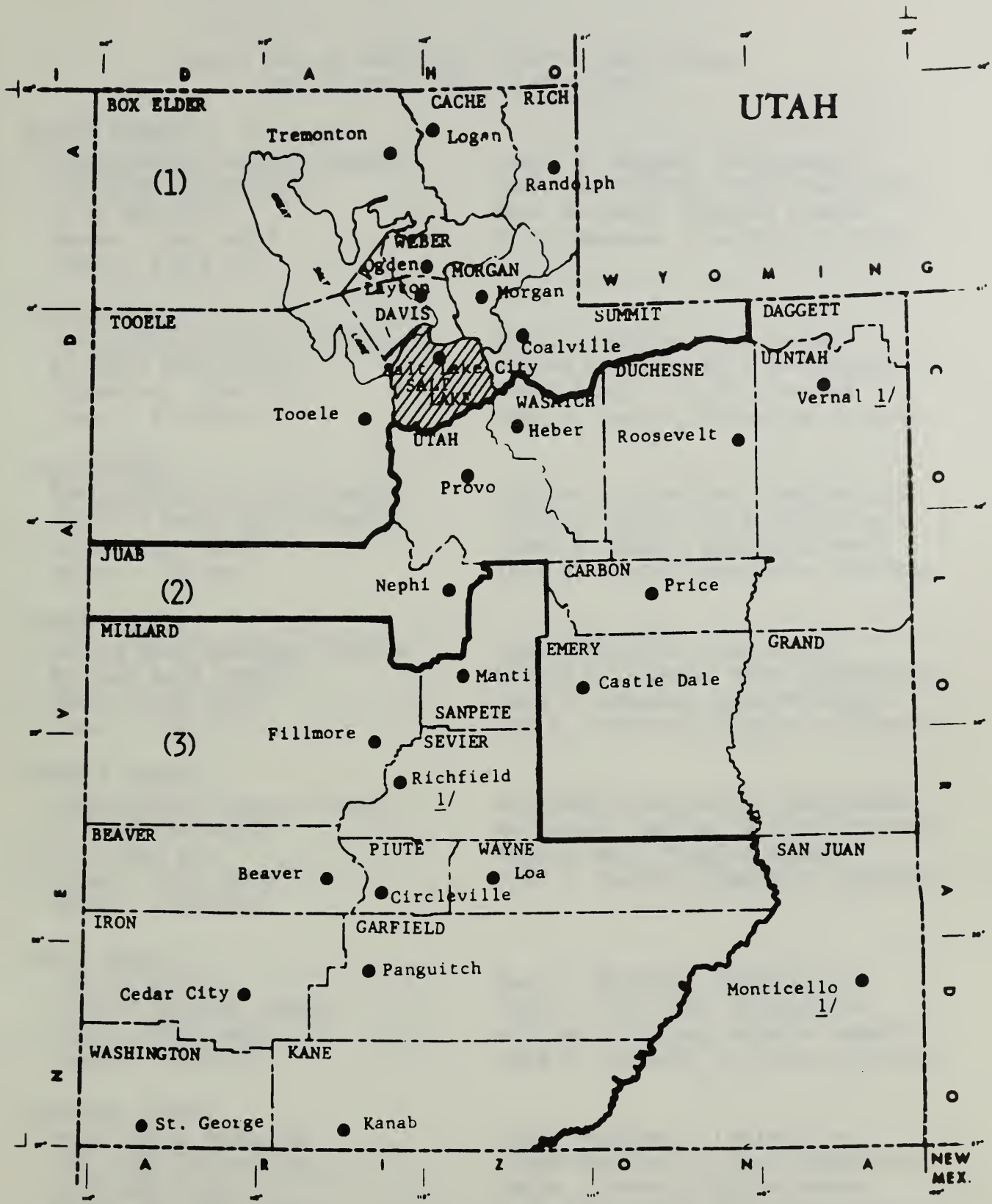

1/ Consolidated Offices

San Juan - Grand
Sevier - Piute
Uintah - Daggett

▨ Did not participate in DCP
● Site of county office

District Director's district:

(1) Philip E. Bergeson
(2) Thad M. Nebeker
(3) George M. Anderson

COUNTY OFFICE ADDRESSES, COUNTY COMMITTEEMEN AND COUNTY EXECUTIVE DIRECTORS

BEAVER COUNTY

Agricultural Service Center
190 North First East
P. O. Box 910
Beaver, Utah 84713
Phone: 438-2456

James B. Morgan, Chairperson
Duane M. Yardley, Vice Chairperson
Ross Marshall, Regular Member
R. G. Gardner, Executive Director

BOX ELDER COUNTY

Agricultural Service Center
85 South First East
Tremonton, Utah 84337
Phone: 257-5402

Boyd K. Gardner, Chairperson
Gordon Bronson, Vice Chairperson
Frank Chadaz, Regular Member
Mark H. Jensen, Executive Director

CACHE COUNTY

Agricultural Service Center
1075 1/2 North Main Street
Logan, Utah 84321
Phone: 753-3661

Reuben D. Rasmussen, Chairperson
Clair C. Allen, Vice Chairperson
Frank P. Olsen, Regular Member
Lyle R. Cooley, Executive Director

CARBON COUNTY

Walker Bank Building, Room 8
82 West Main Street
Price, Utah 84501
Phone: 637-2141

Jack Chiaretta, Chairperson
Claude R. Pierce, Vice Chairperson
Boyd L. Marsing, Regular Member
Jay A. Anderson, Executive Director

DAGGETT COUNTY

Agricultural Service Center
80 North 500 West
P. O. Box 860
Vernal, Utah 84078
Phone: 789-2094

Alexander Radosevich, Chairperson
William M. Briggs, Vice Chairperson
Milton Beck, Regular Member
Lyle C. Taylor, Executive Director

DAVIS COUNTY

Sill Building
70 West Gentile Street
Layton, Utah 84041
Phone: 376-2236

Ben A. Thurgood, Chairperson
Jay G. Love, Vice Chairperson
William B. Rigby, Regular Member
Lynn A. Criddle, Executive Director

DUCHESNE COUNTY

Post Office Building
154 South Second East
P. O. Box 218
Roosevelt, Utah 84066
Phone: 722-2491

Keith Mortensen, Chairperson
Jimmy Brotherson, Vice Chairperson
Orven J. Moon, Regular Member
Nathan D. Allen, Executive Director

COUNTY OFFICE ADDRESSES, COUNTY COMMITTEEMEN AND COUNTY EXECUTIVE DIRECTORS (CONT'D)

EMERY COUNTY	
Agricultural Service Center	Lee G. Humphrey, Chairperson
90 South First East	Fred Gene Dunham, Vice Chairperson
Castle Dale, Utah 84513	Perry V. Bunderson, Regular Member
Phone: 748-2300	James F. Nelson, Executive Director
GARFIELD COUNTY	
Agricultural Service Center	F. Grant Houston, Chairperson
225 East Center Street	Stanley D. Tebbs, Vice Chairperson
P. O. Box 277	Earl Brooks, Regular Member
Panguitch, Utah 84759	Donald Liston, Executive Director
Phone: 676-8860	
GRAND COUNTY	
Young Building	George M. White, Chairperson
185 North First East	Leo Ray Alger, Vice Chairperson
P. O. Box 639	Arnel Holyoak, Regular Member
Monticello, Utah 84535	Richard L. Holyoak, Jr., Executive Director
Phone: 587-2473	
IRON COUNTY	
Agricultural Service Center	Darwin Hulet, Chairperson
80 North 100 East	Brent F. Hunter, Vice Chairperson
P. O. Box D	Carlisle W. Hulet, Regular Member
Cedar City, Utah 84720	Alma C. Lawrence, Executive Director
Phone: 586-2496	
JUAB COUNTY	
Agricultural Service Center	Richard T. Paxman, Chairperson
740 South Main Street	Robert B. Shepherd, Vice Chairperson
Nephi, Utah 84648	Russell H. Jackson, Regular Member
Phone: 623-0342	Leo O. Osborne, Executive Director
KANE COUNTY	
Bybee Building, Room 5	Ronnow Bunting, Chairperson
30 North Main Street	Earl Sorenson, Vice Chairperson
P. O. Box R	DeRalph Bunting, Regular Member
Kanab, Utah 84741	Dallen C. Quarnberg, Executive Director
Phone: 644-2350	
MILLARD COUNTY	
Agricultural Service Center	L. Ben Stott, Chairperson
88 North Main	Phil Eliason, Vice Chairperson
P. O. Box 206	Earl F. Holman, Regular Member
Fillmore, Utah 84621	M. Raun Child, Executive Director
Phone: 743-5313	

COUNTY OFFICE ADDRESSES, COUNTY COMMITTEEMEN AND COUNTY EXECUTIVE DIRECTORS (CONT'D)

MORGAN COUNTY	
City and County Building	W. Kent Williams, Chairperson
48 West Young Street	Ivan E. Carter, Vice Chairperson
P. O. Box 217	Lee B. Rollins, Regular Member
Morgan, Utah 84050	Frank B. Rich, Executive Director
Phone: 829-3461	
PIUTE COUNTY	
Lay Building	Reid Sudweeks, Chairperson
150 West Main Street	Keith M. Ogden, Vice Chairperson
P. O. Box 706	Nuel Anderson, Regular Member
Circleville, Utah 84723	Wendell L. Roberts, Executive Director
Phone: 577-2956	
RICH COUNTY	
County Courthouse	Stephen L. Huffaker, Chairperson
P. O. Box 188	George W. Weston, Vice Chairperson
Randolph, Utah 84064	Roger Earley, Regular Member
Phone: 793-2465	Marvin G. Johnson, Executive Director
SALT LAKE COUNTY	
Agricultural Service Center	Elmer Sanders, Chairperson
520 Cottonwood Street	Stanley G. Dimond, Vice Chairperson
Midvale, Utah 84047	Reed B. Mackay, Regular Member
Phone: 588-4370 (FTS)	G. Pete Frandsen, Executive Director
524-4370 (Commercial)	
SAN JUAN COUNTY	
Young Building	Ivan Watkins, Chairperson
185 North First East	Howard Crittenden, Vice Chairperson
P. O. Box 639	Max K. Johnson, Regular Member
Monticello, Utah 84535	Richard L. Holyoak, Jr., Executive Director
Phone: 587-2473	
SANPETE COUNTY	
Post Office Building	Harry Kimura, Chairperson
132 North Main Street	Don H. Prestwich, Vice Chairperson
P. O. Box 49	David L. Peterson, Regular Member
Manti, Utah 84642	R. Lynn Nielson, Executive Director
Phone: 835-4151	
SEVIER COUNTY	
VaMar Building	M. D. Sorensen, Chairperson
25 South First East	Garn Bastian, Vice Chairperson
P. O. Box 606	Tim Bastian, Regular Member
Richfield, Utah 84701	Wendell L. Roberts, Executive Director
Phone: 584-8223 (FTS)	
896-5084 (Commercial)	

COUNTY OFFICE ADDRESSES, COUNTY COMMITTEEMEN AND COUNTY EXECUTIVE DIRECTORS (CONT'D)

SUMMIT COUNTY	
Agricultural Service Center	Elwin Rees, Chairperson
30 South Main Street	Edward G. Foster, Vice Chairperson
P. O. Box 2	Gary M. Pace, Regular Member
Coalville, Utah 84017	James B. Swensen, Executive Director
Phone: 336-2271	
TOOELE COUNTY	
Post Office-Federal Building	Evan L. Coon, Chairperson
65 North Main Street	Calvin E. Olson, Vice Chairperson
P. O. Box 717	Wendell H. Anderson, Regular Member
Tooele, Utah 84074	Tommy Miyagishima, Executive Director
Phone: 882-3018	
UINTAH COUNTY	
Agricultural Service Center	LaRue Pickup, Chairperson
80 North 500 West	Amos Merkley, Vice Chairperson
P. O. Box 860	Dee Curfew, Regular Member
Vernal, Utah 84078	Lyle C. Taylor, Executive Director
Phone: 789-2094	
UTAH COUNTY	
Federal Building, Room 110	Kenneth W. Webb, Chairperson
90 West First North	Paul M. Jensen, Vice Chairperson
Provo, Utah 84601	Dale A. Saunders, Regular Member
Phone: 584-0238 (FTS)	J. Douglas Simkins, Executive Director
377-5296 (Commercial)	
WASATCH COUNTY	
Federal Building	Reed Ford, Chairperson
125 East First North	Calvin Giles, Vice Chairperson
P. O. Box 6	Russell Price, Regular Member
Heber City, Utah 84032	Richard R. Mickelson, Executive Director
Phone: 654-0232	
WASHINGTON COUNTY	
Federal Building	William Flint Wright, Chairperson
196 East Tabernacle	Lavon Jones, Vice Chairperson
P. O. Box 248	Reed Mathis, Regular Member
St. George, Utah 84770	Ray Lynn Hurst, Executive Director
Phone: 673-2381	

COUNTY OFFICE ADDRESSES, COUNTY COMMITTEEMEN AND COUNTY EXECUTIVE DIRECTORS (CONT'D)

WAYNE COUNTY 150 South Main Street P. O. Box 126 Loa, Utah 84747 Phone: 836-2711	Clinton D. Peterson, Chairperson Van Taylor, Vice Chairperson Don Chappell, Regular Member Barlow W. Pace, Executive Director
WEBER COUNTY Federal Building-Courthouse 324 - 25th Street, Room 1104 Ogden, Utah 84401 Phone: 586-6181 (FTS) 399-6181 (Commercial)	Floyd D. Fowers, Chairperson Dennie Prevedel, Vice Chairperson Edward J. Wayment, Regular Member Tad D. Hendricks, Executive Director

STATE SUMMARY OF THE 1977 DROUGHT CONSERVATION PROGRAM

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		5,856
Participants	Number		6,182
Cost-Shares	Dollar		11,071,281
Average Per Farm	Dollar		1,891
Pooling Agreements - Agreements	Number		472
- Farms	Number		4,955
- Cost-Shares	Dollar		8,502,668

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	450	455	Number Ac. Ser.	860 308,754	733,731	.07	853.18 2.38
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	5,399	5,720	Ac. Ser.	275,982	10,006,555	.90	36.26
Establishing Permanent Vegetative Cover	DC4	3	3	Acres	180	1,235	.00	6.86
Reestablish or Improve Permanent Vegetative Cover	DC5	14	15	Acres	8,283	12,613	.00	1.52
Water Catchments	DC6	95	100	Number Ac. Ser.	100 23,955	97,274	.01	972.74 4.06
Emergency Irrigation Water for Cropland	DC20	95	96	Number Ac. Ser.	84 6,525	219,943	.02	2,618.37 33.71

BEAVER COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		125
Participants	Number		138
Cost-Shares	Dollar		375,895
Average Per Farm	Dollar		3,007
Pooling Agreements - Agreements	Number		21
- Farms	Number		92
- Cost-Shares	Dollar		252,278

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	18	18	Number Ac. Ser.	52 16,245	28,211	.07	542.52 1.74
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	114	123	Ac. Ser.	7,785	314,266	.84	40.36
Reestablish or Improve Permanent Vegetative Cover	DC5	1	2	Acres	150	1,668	.01	11.12
Emergency Irrigation Water for Cropland	DC20	10	10	Number Ac. Ser.	12 906	31,750	.08	2,645.83 35.04

BEAVER COUNTY'S GREATEST CONSERVATION IMPROVEMENT YEAR

The past year might well be called a "Conservation Miracle Year" in Beaver County. Over $400,000 in ASCS cost-share funds was allocated to install much-needed conservation practices on farms and ranches. The farmers, from their own resources, put even a greater amount into these projects to make this a million dollar year in soil and water conservation. This is nearly ten times the amount that is normally allocated to Beaver County for conservation work through the Agricultural Conservation Program (ACP).

The severe drought of 1977 brought farmers again to the full realization that the life blood of agriculture in this arid country is water. They could only stand by as streams ran dry and their crops withered and burned.

The Federal government was made aware of the problem, and the extreme need for assistance, by the County and State ASC Committees.

Wheels were set in motion through Federal Disaster Agencies. Funds were allocated to carry out expanded conservation measures to assist in conserving the limited supply of water and to bring relief by development of underground water for irrigation and livestock. These were to be enduring-type practices that would be beneficial to farmers and ranchers for many years.

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The ASC State and County Committees were called upon to administer the program and to allocate federal cost-share funds to assist farmers in getting the job done.

The accomplishments in Beaver County speak for themselves. The following is a resume' of what happened:

46,000 feet, or nearly nine miles, of pipeline to transport irrigation water was installed.

41,000 feet, or some eight miles, of ditches were lined with concrete.

100,000 feet, or nineteen miles, of mainlines for sprinkler systems were installed.

10 irrigation wells were drilled.

Land leveling and other practices were also carried out to conserve water.

The rangelands suffered also and high priority was given to requests for assistance. Projects carried out were:

43,000 feet, or over eight miles, of livestock water lines and 60 troughs were installed.

5 water wells were drilled to furnish water for livestock.

1,286 acres of rangeland were cleared of competitive shrubs and seeded to grass.

LOOKING UPSTREAM AT NORTH BENCH DIVERSION

(Continued)

The above facts and figures may make one think the job is done. This is not the case--this is only a fraction of that which should and needs to be done to conserve the soils and water in Beaver County. This was only a reawakening of what can be accomplished by a joint effort of government and farmers cooperating in the great conservation effort.

Each project added its strength to the overall accomplishment. There were projects on individual farms and others in which groups of farmers worked together in a common effort known as a pooling agreement.

The following is one of our projects completed under DC3, Emergency Modification of Irrigation Systems:

NORTH BENCH POOLING AGREEMENT

Ever since the early settlers plowed the first ditches over this porous terrain and others labored over the years to maintain and improve them, very little water reached the farms below. Over this bench rangeland there were four ditches, three of which paralleled each other for several miles. A sizeable stream could be put in each ditch, but after a mile or two there would be no water. In low water years this meant disaster for the farmers below.

A large diversion was constructed to divide the water, and the three ditches that paralleled each other were combined into one concrete-lined ditch that carries up to 25 c.f.s.; then as the water drops off the bench, it is carried by two 12" pipelines into the separate systems. Sufficient pressure is developed so that if the farmers wish, they may install sprinkler systems in the future. Now, instead of 12 or more hours (and maybe never), the water is only minutes away as it traverses the more than 5 miles of lining and pipe with no loss of water. The farmers, with more water than they ever believed could be theirs, think a "miracle" has been brought to Beaver County.

CONCRETE LINING ENDS AND WATER IS DIVERTED INTO TWO PIPELINES THAT SEPARATE AND DROP OFF FIRST BENCH

A "BEFORE" PICTURE OF OLD CHANNEL
WHICH PREVIOUSLY CARRIED WATER

12" PIPE READY TO BE LAID IN PLACE
ON THE NORTH BENCH PROJECT, BEAVER

BOX ELDER COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		320
Participants	Number		321
Cost-Shares	Dollar		911,383
Average Per Farm	Dollar		2,848
Pooling Agreements - Agreements	Number		38
- Farms	Number		206
- Cost-Shares	Dollar		695,081

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	18	19	Number	24			1,521.17
				Ac. Ser.	20,517	36,508	.04	1.78
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	277	277	Ac. Ser.	13,576	827,530	.91	60.96
Water Catchments	DC6	7	7	Number	13			865.77
				Ac. Ser.	1,797	11,255	.01	6.26
Emergency Irrigation Water for Cropland	DC20	18	18	Number	19			1,899.47
				Ac. Ser.	890	36,090	.04	40.55

SETTLING POND FOR DEBRIS AND SILT PARTICLES BEFORE WATER RUNS THROUGH THE SCREENING DEVICE

MARBLE CREEK IRRIGATION PROJECT

A group of six farmers from Park Valley, Utah, pooled their resources to install an irrigation system to serve approximately 1,100 acres of cropland. Gerald Rose acted as Agent for this group. The farms in this area depend on annual runoff from the Raft River mountains to the North. The Park Valley area suffered below-normal moisture in 1976--then the severe drought in 1977. The water that did run down the canyons barely reached the fields; therefore, no irrigation was possible.

The economic condition of the ranches in Park Valley has deteriorated in the last three years due to low cattle prices, and participation in a cost-share program was the only way they could survive.

The group explored the options available to them and decided that sprinkler systems were the answer to their problems. At this same time, the Drought Conservation Program was announced and the application was filed for cost-share.

Total cost of the project was $200,750. Cost-shares approved, $56,273.

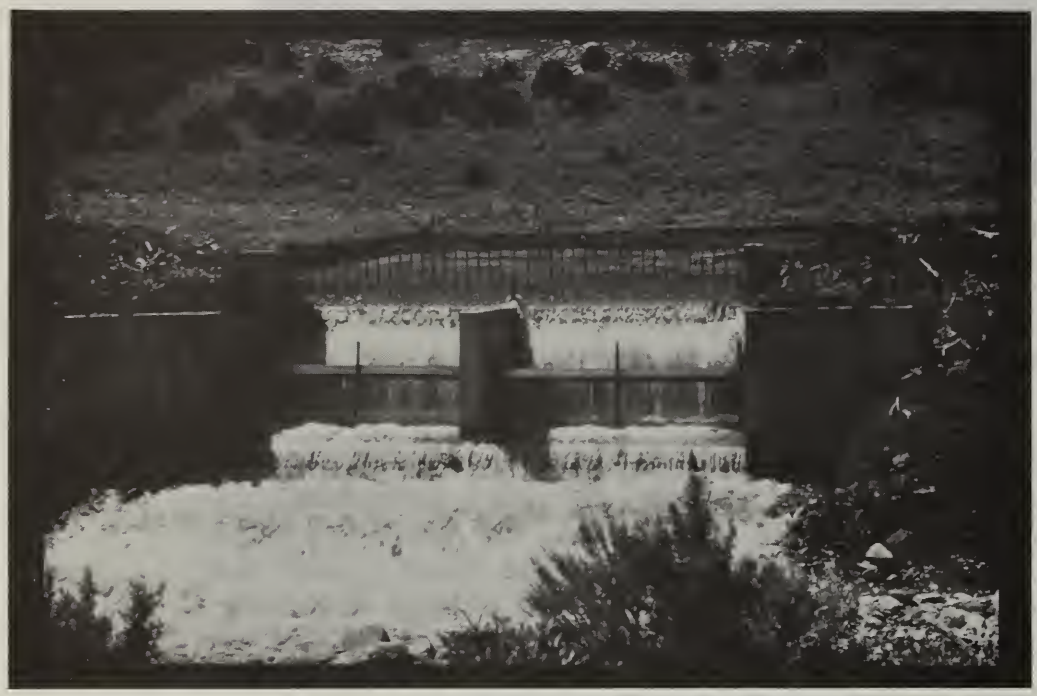
Many obstacles were encountered in securing additional financing. The SCS engineers were overloaded with work which delayed getting plans and designs. By the time bids were ready to be

(Continued)

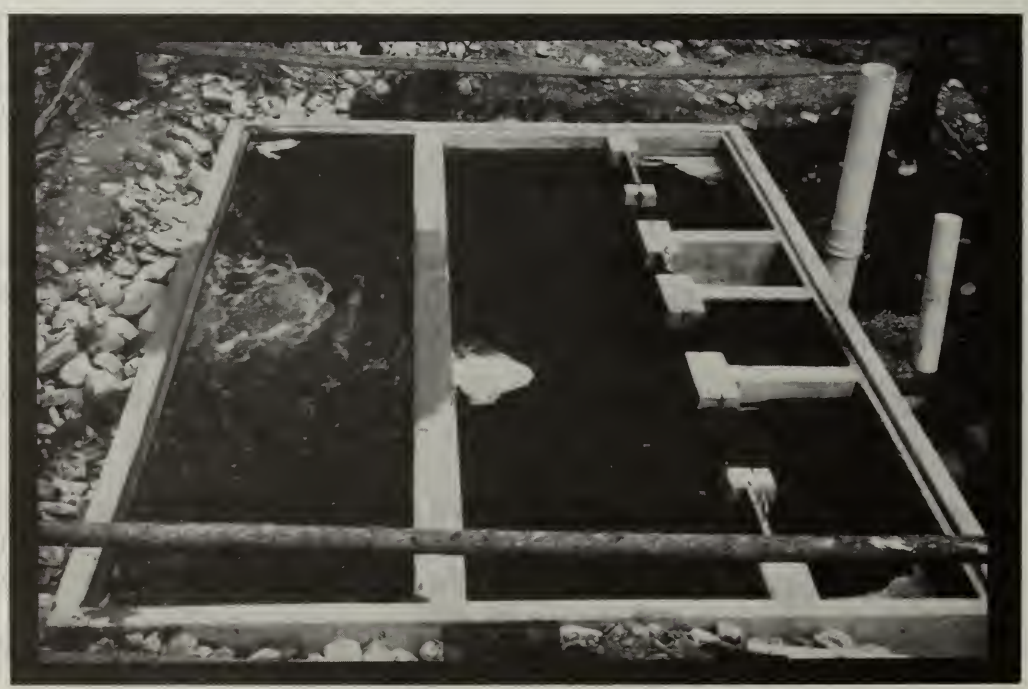
received, PVC pipe was difficult to get, thus further delaying the starting of the project.

The project consisted of 61,853 feet of pipe ranging in size from 4 to 15 inches and 527 risers were used to serve the 1,100 acres of land. Excavation began on the project in early July 1977, and the project was completed in late October 1977.

The farmers and ranchers that participated were very grateful for the program, and especially to the State committee for all their interest in helping to alleviate the affects of the drought and for the extra effort they put forth to secure additional funds for the State.



SCREENING STRUCTURE USED TO TAKE OUT SEDIMENT FROM HIGH WATER RUNOFF COMING DOWN FROM CANYONS ABOVE



MARBLE CREEK PROJECT IN PARK VALLEY, UTAH, SHOWING INLET STRUCTURE

POOLING AGREEMENT NO. 10

Eight farmers from Garland, Utah, pooled their resources to install an irrigation pipeline to serve 260 acres of cropland. Brent Larsen acted as Agent for the group.

Their irrigation ditch paralleled a county road for one-fourth of a mile; then meandered through the fields and crossed a levee for 600 feet with an average height of 4 feet. The road was lined with trees, which made the ditch impossible to clean. Where the ditch crossed the levee, it was so wide and the banks so narrow, it was impossible to get a tractor on to clean it.

The project consisted of 8,726 feet of 15-inch PVC pipe.

Total cost of the project was $40,617. Cost-shares amounted to $32,493 to the eight participants.

The project was completed on January 17, 1978.

Many other benefits have been derived from this project in addition to the conservation of water. The ditch along the county road was eliminated--which makes the road safer and eliminates a severe weed problem. The original barrow pits along the levee had never been filled back in--which caused an unsightly scene and also a severe weed problem. The levee has been leveled back out and the land will be put back into production.

WEEDY DITCH "BEFORE" CONSTRUCTION BEGAN

OPEN DIRT DITCH

COVERED PIPELINE DITCH

CACHE COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		338
Participants	Number		375
Cost-Shares	Dollar		729,205
Average Per Farm	Dollar		2,157
Pooling Agreements - Agreements	Number		39
- Farms	Number		321
- Cost-Shares	Dollar		589,684

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	7	7	Number Ac. Ser.	8 1,139	9,308	.01	1,163.50 8.17
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	323	359	Ac. Ser.	15,268	689,431	.94	45.16
Reestablish or Improve Permanent Vegetative Cover	DC5	1	1	Acres	610	1,223	.01	2.00
Water Catchments	DC6	1	1	Number Ac. Ser.	6 60	1,380	.01	230.00 23.00
Emergency Irrigation Water for Cropland	DC20	15	15	Number Ac. Ser.	11 1,173	27,863	.03	2,533.00 23.75

NEWTON DCP PROJECT

Eighty farmers in the Newton area joined hands to solve a serious conservation problem under the 1977 DCP. With the drought facing them, they united to install some much needed ditch lining and a pipeline to save every drop of water possible.

Records compiled showed West Branch Canal water loss up to 2.5 cubic feet of water per second and the East Branch Canal was losing 1.8 cubic feet per second.

The water source is Clarkston Creek with a storage reservoir holding approximately 5,000 acre feet of water. The reservoir was only 60 percent full and there was great water loss in the canals, so they installed 1,520 feet of ditch lining two feet deep and with a two-foot bottom; 12,200 feet with a two-foot bottom, and 2-1/2 feet deep as well as 10,950 feet of 10-inch pipe.

The project cost $160,060. Cost-share approval was $112,042.

Ninety-five percent of the water application is by sprinkling systems so that operation is very efficient, but the water distribution from the reservoir through the canals was the problem. The lining and pipe installed made it possible for 3,000 acres of land to produce crops even with the short water supply.

A LOOK AT THE LINING IN
THE EAST BRANCH CANAL

THIS IS THE LARGE "V"
MACHINE USED TO DIG THE
DITCH BEFORE CONCRETE
WAS PUT IN PLACE

RICHMOND DCP PROJECT

In the Richmond area, with the main source of water being stream flow from High Creek, the 1977 drought was certainly a serious problem. Eleven farmers joined together in this conservation project to save every drop of water possible for their crops.

They installed 21,569 feet of plastic pressure pipe in sizes ranging from 4 to 15 inches for the gravity system. Not only were they able to use the small water supply more efficiently, but also, the area is steep enough that a considerable amount of soil is saved from erosion.

Cost of the project was approximately $72,690 and was made possible by $49,294 cost-share paid from DCP funds.

A quote from Lynn Christensen, Agent for the group, sums up the results: "The cooperation of the farmers, the ASCS cost-share and the technical help of SCS saved our necks and made it possible to exist with the short water supply of 1977."

A LOOK IN THE OPEN TRENCH AS FARMERS
JOIN TWO SECTIONS OF PIPE

CARBON COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		165
Participants	Number		167
Cost-Shares	Dollar		242,430
Average Per Farm	Dollar		1,469
Pooling Agreements - Agreements	Number		10
- Farms	Number		151
- Cost-Shares	Dollar		211,662

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	16	16	Number Ac. Ser.	58 20,252	20,539	.08	354.12 1.01
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	157	159	Ac. Ser.	5,107	221,891	.92	43.45

TUNNEL LINING - COMBINING LATERALS

It is very exciting to look back at the Water conservation accomplishments during 1977 as a result of the Drought Conservation Program. The Carbon County ASC Committee is proud to have been a part of this vast program.

The major portion of the funds were applied to irrigation systems, but much was also accomplished on our ranges with pond construction and spring development for livestock water.

We had ten pooling agreements involving 177 participants and thirty-two individual practices.

Two of our outstanding projects included: lining a tunnel with reinforced concrete pipe for a canal system; and combining laterals into one pipeline.

Tunnel Lining

The tunnel was constructed many years ago for the Wellington Canal. It had to be constructed through mancos shale. As a result, there has been considerable water loss. Not only was the water lost for irrigation, but it surfaced below causing a severe salinity problem on cropland. In addition to these two problems, the tunnel was in danger of caving in due to the mancos shale air-slacking in the open tunnel.

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Now that the project has been completed, the benefits are threefold: water saved; a portion of the salinity problem solved; and the danger of the entire irrigation system being completely cut off was remedied.

This project involved 650 linear feet of reinforced concrete pipe designed to carry 60 c.f.s. The total cost was $99,588. Cost-shares amounted to $79,406. There were 47 participants and 2,400 acres of cropland affected.

Combining Laterals

There were two separate laterals serving a total of nine farms with 398 acres of cropland. They were crooked, tree-lined laterals following the contour of a low-lying, gravelly ridge. It was estimated that there was at least a 30 percent water loss in each of these two laterals.

As a result of installing 7,400 linear feet of 15- and 18-inch PVC pipe, with the necessary valves, fittings, and structures, the two laterals were eliminated and the farms now receive 100 percent of the 10 c.f.s. of water turned out of the canal.

The total cost of the project was $72,485. Cost-shares amounted to $50,138.

(Continued)

The photos show "before and after" of the two laterals and what it looks like after being combined into one pipeline as well as some construction shots. For those who might wonder why water is being pumped into the trench - that is to insure complete compaction around the 18-inch pipe. This is the first plastic pipe of this size installed in Utah under a cost-sharing program.

Participants in these two projects, as well as all others, are grateful for the assistance they received. Without it, this work could not have been accomplished in 1977.

INSTALLING 18" PIPE IMMEDIATELY BELOW CANAL ON THE "COMBINING LATERALS" PROJECT

OPEN TUNNEL AS IT LOOKED BEFORE PIPE INSTALLED

INSIDE TUNNEL - LOOKING OUT

DAGGETT COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		33
Participants	Number		34
Cost-Shares	Dollar		116,782
Average Per Farm	Dollar		3,539
Pooling Agreements - Agreements	Number		3
- Farms	Number		27
- Cost-Shares	Dollar		88,487

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	5	5	Number Ac. Ser.	6 1,020	11,318	.10	1,886.33 11.10
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	28	30	Ac. Ser.	9,300	102,008	.87	10.97
Reestablish or Improve Permanent Vegetative Cover	DC5	3	3	Acres	1,590	3,456	.03	2.17

PEOPLE'S CANAL
POOLING AGREEMENT NO. 4

Under practice DC3, Emergency Modification of Irrigation Systems, of the 1977 Drought Conservation Program, the stockholders of People's Canal were able to construct a metal flume across their canal. Ranchers from both Utah and Wyoming participated in the project which will benefit 2,780 acres of cropland--2,000 of which are in Utah.

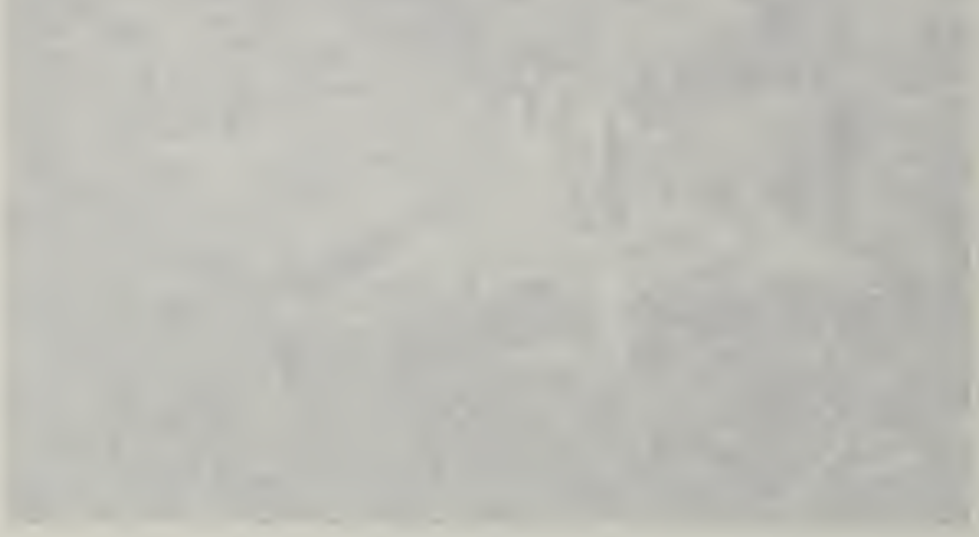
The project, now completed, will correct a water loss and erosion problem where a "wash" crossed the canal. Whenever the snow melted off or a flash rainstorm occurred, the wash would empty into the canal and fill the system with sediment, thus resulting in water loss while the system was being cleaned. An underpass had been constructed years ago, but this had filled up and was no longer effective.

Located two miles east and 1/2 mile south of Manila, Utah, the project was accomplished under Pooling Agreement No. 4. The canal company has 14 stockholders--all of whom are ranchers. Eight of the stockholders--comprising 73% of the stock--are in Utah. The other six stockholders are located in Sweetwater County, Wyoming. 80 feet of 72 x 44 inch pipe was installed.

(Continued)

Cost of the project was $4,482. The cost-share payment approved was $3,586. Cost-share payments actually paid in Utah were $1,114. The Wyoming producers were eligible for a cost-share payment of $954.

The project was started in September, 1977, and completed May 1, 1978.



SHEEP CREEK IRRIGATION DIVERSION AND PIPELINE

Under the 1977 Drought Conservation Program, the producers in the Sheep Creek Irrigation area of Daggett County were able to construct two diversion structures, two pipelines, and a parshall flume. These structures were separate components of the Long's Park Reservoir, an irrigation and conservation project. Long's Park Reservoir is being constructed with grants from the Resource Conservation and Development Division, Soil Conservation Service, and the Four Corners' Commission.

The project will correct a serious erosion and water loss problem on the canal system. It will eliminate the lodgepole diversion and canal where serious water losses have occurred, and also replace old wooden diversions that have worn out. The pipeline will save considerable water losses and eliminate sections where the canal was steep and erosion deposited tons of sediment into the irrigation system.

The project was completed under practice DC3, Emergency Modification of Irrigation Systems, and involved, in addition to the two dividers, a parshall flume, 910 feet of 18-inch concrete pipe, 1,160 feet of 21-inch concrete pipe, and 224 feet of 48-inch pipe along with gates and fixtures.

The Sheep Creek Irrigation Group had 24 participants. Others participating in the project were: Daggett County, Daggett School

(Continued)

District, U. S. Forest Service, and the Utah Department of Wildlife Resources.

Cost of the project was $128,235; cost-share payment was $84,685. The payment was less than 80 percent of the cost because some of the participants' payments were over the $10,000 limitation; and two of the farms are located in Wyoming. Cost-share for them was handled through the Wyoming office.

The project is located about 12 miles southwest of Manila on U. S. Forest Service and private lands, and will benefit 7,830 acres of irrigated land.

The project was started in September 1977 and completed in April 1978.

DISTRIBUTION PIPELINE FROM SOL'S
CANYON DIVERSION TO NEBEKER CANAL

"BEFORE" PICTURE OF AREA WHERE ANTELOPE DIVIDER STRUCTURE WAS INSTALLED

ANTELOPE DIVIDER STRUCTURE - COMPLETED PROJECT

DAVIS COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		404
Participants	Number		484
Cost-Shares	Dollar		353,925
Average Per Farm	Dollar		876
Pooling Agreements - Agreements	Number		17
- Farms	Number		390
- Cost-Shares	Dollar		259,509

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	404	484	Ac. Ser.	21,378	353,925	100	16.56

POOLING AGREEMENT NO. 5

The Clearfield Irrigation System delivers water to 4,000 acres of choice farm land. There are 182 people contributing toward the cost of the project--of which 112 are eligible participants.

This year's project was in three segments as follows:

A. 375 feet of 30-inch concrete pipe in a badly eroded ditch along 1700 South near 2800 West, Syracuse, Utah.

B. 2,759 feet of 30-inch pipe in extremely sandy soil to complete lining a ditch where it was determined by actual measurement that 30% of the water seeped away in a two-mile test. This section can be found at 550 North and 3000 West, West Point, Utah.

C. 1,673 feet of 15-inch pipe to complete lining another ditch on 700 South and 1500 West in Syracuse. There was erosion and seepage which presented a conservation problem.

The project cost $45,988. ASCS cost-share was $29,400.

Construction began in October 1977 and the project was completed in April 1978.

COVERED PIPELINE AREA AFTER COMPLETION OF PROJECT

POOLING AGREEMENT NO. 11

This project was a combined effort of the Kaysville Irrigation System and two farmers who use water from this system.

The decision was made that a secondary ditch could be eliminated by joint effort under Practice DC3. The main ditch was lined with concrete pipe, and by using proper structures and alfalfa valves it was accomplished.

Forty-three producers were involved in the project which installed 2,930 feet of 18-inch concrete pipe, 49 alfalfa valves, and 5 structures with needed headgates. The location is west of the U.P. Railroad going both north and south from 200 North in Kaysville.

Now completed, this project controls erosion, stops seepage, and delivers more water effectively.

The total cost was $31,063. ASCS participated with cost-share funds amounting to $23,000.

Water delivered through this pipeline serves about 1,200 acres of good cropland.

Construction began in October 1977 and the project was completed in early May 1978.

POOLING AGREEMENT NO. 11

KAYSVILLE IRRIGATION PIPELINE PROJECT
BEFORE PROJECT BEGAN

DUCHESNE COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		254
Participants	Number		266
Cost-Shares	Dollar		453,681
Average Per Farm	Dollar		1,786
Pooling Agreements - Agreements	Number		11
- Farms	Number		200
- Cost-Shares	Dollar		288,831

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	33	33	Number Ac. Ser.	36 3,728	43,601	.09	1,211.13 11.69
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	230	243	Ac. Ser.	20,684	409,576	.90	19.80
Reestablish or Improve Permanent Vegetative Cover	DC5	1	1	Acres	60	504	.01	8.40

CANAL LINING - CLASS "C" CANAL

On August 21, 1977, there was a break in the Class "C" Canal in the Ioka area of Duchesne County, some 10 miles south and west of Roosevelt, Utah. The hillside was gutted 30 feet deep and 100 feet long--flooding the fields below.

The break was quickly repaired. However, it was noted that about 600 feet east of the break where the south side of the hill was nearly vertical, the area was saturated with water, and water was leaking from the south side of the hill. Had the water continued to saturate the hillside, the whole hillside could have sloughed off, which would have caused very expensive, extensive work to be done before water could be transported in the canal again. An aqueduct would have had to be built, as the water has to be carried at that elevation in order to service the farms under the system.

(Continued)

The farmers met, and after discussing the problem, made the decision to apply for emergency funds under the Drought Conservation Program and line the canal to keep water from seeping into the hillside. On August 24th, 1977, 83 farmers signed under a pooling agreement and were approved for $75,000 cost-share.

In order to secure funds for lining the canal, the producers secured a loan from the First Security Bank of Roosevelt and each signed an Assignment of his cost-share--pledging it as security for the loan.

Work was started immediately, and the project was signed complete on November 14, 1977. 1,923 feet of concrete canal lining were completed, and 11,033 cubic yards of earth fill were used. The total acceptable cost of the project was $98,755, which was more than sufficient to earn the full $75,000 cost-share. On November 22, 1977, a draft was issued to the bank in payment of the loan.

The canal brings water from the Sand Wash Reservoir on the Lake Fork River drainage to the farmers east of the Ioka area. The canal previously could carry 100 second feet of water, but with the lining it now has a capacity of 150 second feet, and that would still leave a "border" above the water level. The project will result in a safer canal with a larger carrying capacity.

There are 8,600 acres served under the project.

CONSTRUCTION WORK ON CONCRETE CANAL LINING

ROCKY POINT CANAL LINING

Due to a soil formation of coarse gravelly soil setting on ledge rock, which water permeates rapidly, Rocky Point Canal was losing approximately 4.7 c.f.s. of water through seepage.

The canal, for a short distance, wound its way around the brow of Blue Bench, just north and east, and adjoining Duchesne City. Seepage was occurring from the canal, causing swampage and some property damage to homes below the hill. Then in the spring of 1977, there was an earth slump due to this seepage. There was always the possibility of the canal giving way on the brow of the hill, which would have caused severe damage to property in the area.

Under the Drought Conservation Program, 29 participants of the Rocky Point Canal joined together in a pooling agreement to install a pipeline large enough to carry the necessary water and reroute it away from the brow of the hill for the area considered most dangerous.

Now completed, the project has eliminated the seepage and water loss from the canal, the homes and property in the area are protected from further water damage, and the area of the canal passing through the residential section on the hill is enclosed--protecting the residents from the large, open stream.

(Continued)

Total cost of the project was $188,288. Total cost-share amounted to $100,117. In addition to ASCS funds provided, $70,000 was borrowed from the Utah Water Conservancy District.

This project was completed on November 30, 1977.

PROJECT DURING CONSTRUCTION

PIPELINE PROJECT COMPLETED

EMERY COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		163
Participants	Number		163
Cost-Shares	Dollar		488,617
Average Per Farm	Dollar		2,998
Pooling Agreements - Agreements	Number		23
- Farms	Number		136
- Cost-Shares	Dollar		376,277

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	88	88	Number Ac. Ser.	124 17,517	247,975	.50	1,999.80 14.16
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	84	85	Ac. Ser.	4,115	239,442	.49	58.19
Water Catchments	DC6	8	8	Number Ac. Ser.	2 1,500	1,200	.01	600.00 .80

POOLING AGREEMENT NO. 5

Under practice DC3, Modification of Irrigation Systems, five producers participated in this pooling agreement.

The conservation problem involved a great loss of water (30%) due to open ditches in gravelly ground and steep cropland which eroded when watered. Water which is now being piped from the canal through sprinkling systems has increased water efficiency by 60% and greatly reduced erosion of the steep cropland.

The area is located west of Orangeville and involves 130 acres of ground.

8,300 feet of underground pipe was used.

Total cost was $19,000, with cost-shares amounting to $13,500.

The project was started in June 1977 and completed in November, 1977.

COVERED AREA WHERE IRRIGATION DITCH PIPELINE WAS INSTALLED

PROJECT AREA SHOWING PERMANENT COVER

L-R - MARK HUMPHREY, AGENT; LEE HUMPHREY, CHAIRMAN, COUNTY ASC COMMITTEE; CRAIG JOHANSEN, PROJECT ENGINEER

POOLING AGREEMENT NO. 16

Under the 1977 DCP, 90 farmers in the Orangeville and Castle Dale areas joined together in this project to solve a conservation problem.

Under practice DC2, Developing Livestock Water to Prevent Erosion, the project was begun in July 1977, and completed in April 1978, benefiting 6,100 acres of farmland. The conservation problem which existed was:

a. Salt buildup on cropland when water remains in ditches too long; also, a salinity problem for the Colorado River Drainage.

b. Wasting valuable water--approximately 1,800 acre-feet per yr.

c. Winter water freezing back and running on cropland--ruining alfalfa and swamping land.

d. Poor quality water for livestock in ponds.

Winter water will be shut out of the canals, drying up the land for six months which should reduce salts on cropland and salinity

(Continued)

to the Colorado River Drainage. Livestockpersons should be able to drain ponds which produce liver fluke in sheep and cause swamping.

Total cost of the project was $400,000.

Total amount of cost-share was $200,000.

INSTALLING PIPE FOR LIVESTOCK WATERING LINE

WATERING TROUGH
AND PASTURES

LIVESTOCK WATERING POND
WHICH CAN BE ELIMINATED.
OBSERVE THE SALT BUILDUP
ON FAR BANK, POOR QUALITY
WATER

GARFIELD COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		124
Participants	Number		127
Cost-Shares	Dollar		231,209
Average Per Farm	Dollar		1,864
Pooling Agreements - Agreements	Number		9
- Farms	Number		103
- Cost-Shares	Dollar		140,174

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	8	8	Number Ac. Ser.	8 1,080	10,657	.04	1,332.13 9.87
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	103	104	Ac. Ser.	7,345	200,620	.87	27.31
Water Catchments	DC6	5	6	Number Ac. Ser.	6 300	6,352	.03	1,058.67 21.17
Emergency Irrigation Water for Cropland	DC20	10	10	Number Ac. Ser.	7 540	13,580	.06	1,940.00 25.15

HATCH IRRIGATION DIVERSION STRUCTURE

The Hatch Irrigation Diversion Structure was installed in Mammoth Creek four miles northwest of Hatch, Utah. The purpose of this structure was to improve the control of and prevent loss of irrigation water.

This diversion will save a considerable amount of irrigation water and will also act as an erosion control structure. The old diversion was constantly being washed out and replaced; thus, the resulting loss of irrigation water.

The total cost of the structure was $15,000, and a cost-share payment of $12,000 was paid to nine farmers signed up in the pooling agreement under practice DC3, Emergency Modification of Irrigation Systems.

There are 450 acres of land below this diversion benefiting from this structure.

Over the past years, the old diversion dam has been a worry and a problem to these farmers. They are very happy and appreciative of this new and dependable structure.

HATCH DIVERSION STRUCTURE ON MAMMOTH CREEK

NEW ESCALANTE IRRIGATION DESILTING STRUCTURE

The New Escalante Irrigation Desilting Structure was installed immediately below the diversion dam. The purpose of this structure was to remove the tremendous amount of silt being taken into the Wide Hollow Reservoir during periods of high run-off.

It appears that this structure will reduce the silt load by as much as 80%, and greatly reduce the loss of storage capacity in the reservoir. It is considered to be very successful in solving the silt conservation problem.

Total cost of the structure was $20,100, and a cost-share payment of $16,075 was paid to 42 farmers signed up in the pooling agreement under practice DC3, Emergency Modification of Irrigation Systems.

There are 1,300 acres of land below the reservoir benefiting from this structure.

Over the last decade, the Wide Hollow Reservoir has rapidly lost storage capacity in the battle against silt. This project was considered the No. 1 priority in the county at the time it was approved.

DESILTING STRUCTURE, IMMEDIATELY BELOW THE DIVERSION DAM - GARFIELD COUNTY

GRAND COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		53
Participants	Number		58
Cost-Shares	Dollar		179,858
Average Per Farm	Dollar		3,393
Pooling Agreements - Agreements	Number		7
- Farms	Number		37
- Cost-Shares	Dollar		137,312

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	1	1	Number Ac. Ser.	11 3,000	2,500	.01	227.27 .83
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	45	45	Ac. Ser.	1,498	146,255	.81	97.63
Water Catchments	DC6	2	2	Number Ac. Ser.	10 3,160	4,996	.03	499.60 1.58
Emergency Irrigation Water for Cropland	DC20	12	12	Number Ac. Ser.	12 306	26,107	.15	2,175.58 85.31

UPPER MILL CREEK DRIVE

Due to the severe dry weather in Grand County, a lot of interest was generated through the Drought Conservation Program. A group of four farmers, realizing the importance of keeping their crops alive, pooled their resources to correct a conservation problem which had plagued them for years, but was realized more strongly in 1977 with the very low flow of irrigation water.

This project included an old diversion structure and an open ditch which ran approximately 665 feet parallel to the creek bank where the water loss was estimated at about 20% in this area. Extending on around a rocky knoll for 1,630 feet, the estimated loss was approximately 10%.

With the low flow of water, it was next to impossible for this group of farmers to get any water out of the creek into the existing ditch. Therefore, it was decided to try to correct this situation by raising the existing structure by approximately four feet, by providing an inlet structure with measuring devices and sand gates for better control of their water, by putting in 665 feet of 15-inch plastic pipe, and by extending a 12-inch pipe on for 1,630 feet.

(Continued)

By installing the pipe, it is now possible for 100% of the water diverted from the creek to reach the farms, whereas before, it was estimated that there was at least a 30% loss between the diversion and the farms.

Total acres served under this system is 85 acres of cropland, with approximately 40 acres of orchard--which includes apples, peaches, pears, and apricots.

Total cost of the project was $28,000. Total eligible cost for cost-share was $26,815. Cost-share paid on this project was $21,453.

The project was started June 21, 1977. Because of the slow delivery of the pipe and fittings and a shortage of cement, this project was not completed until December 15, 1977.

MILL CREEK UPPER DIVERSION - MOAB

IRON COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		193
Participants	Number		197
Cost-Shares	Dollar		385,434
Average Per Farm	Dollar		1,997
Pooling Agreements - Agreements	Number		11
- Farms	Number		139
- Cost-Shares	Dollar		222,481

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	36	36	Number Ac. Ser.	85 48,257	58,903	.15	692.98 1.22
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	158	162	Ac. Ser.	10,202	314,031	.82	30.78
Emergency Irrigation Water for Cropland	DC20	6	6	Number Ac. Ser.	5 665	12,500	.03	2,500.00 18.80

THE DARK HALLOW PROJECT

This project is located about 12 miles up Parowan Canyon, just south of the Yankee Meadows Reservoir. The primary purpose of the project was to conserve water. It consists of an inlet structure and 10,250 feet of pipeline which replaced about two miles of open hand-made channel.

Water losses due to seepage along this old channel were extremely high. The old channel was made originally to divert water from another drainage into the Yankee Meadows Reservoir.

The project was completed in the fall of 1977 under the Drought Conservation Program (DCP) at a cost of nearly $69,000. The 55 participating farmers received $55,154 in cost-share funds.

THIS IS A BEAVER DAM POND LOCATED NEAR THE WATER INLET STRUCTURE ON THE DARK HALLOW PROJECT

OLD MAN-MADE WATER CHANNEL WHICH DELIVERED THE WATER FROM THE SPRING AREA TO THE YANKEE MEADOWS RESERVOIR. NOTE GROWTH OF GRASS AND WEEDS ALONG THE OLD WATERWAY

THE KANARRAVILLE PROJECT

The Kanarraville project consisted of two principal components. The first component included special concrete structures designed to improve the quality of water delivered to the farms and provided an accurate and easy method of dividing the creek into any desired proportions. The second component of the project was the pipeline delivery system, installed to convey the water from the concrete parshall flume measuring devices to the head of the fields located both to the west and northwest of Kanarraville, resulting in little or no loss of water between the structures and the farmland.

Twenty farmers united together to make this project a reality. Certainly, the project could never have been accomplished without a substantial amount of financial assistance.

The project was designed to solve two major conservation problems: (1) During periods of summer storms and spring runoff, the problem was that large amounts of gravel, sand, silt, clay, sticks and trash filled the ditches and fouled up the cropland. (2) A shortage of water at other times, due to seepage as the water traveled through the two miles of open ditches infested with weeds, grass, brush and trees.

(Continued)

The 20 participants received $65,728 in cost-share assistance under the 1977 Drought Conservation Program (DCP) to help with this $83,000 project. More than 93 cubic yards of concrete were used in the structures and over two miles of pipeline were installed in the delivery system.

DEEP END OF THE DESILTER WHILE FULL OF WATER.
THE PARSHALL FLUME MEASURING DEVICE ON LEFT

ANOTHER VIEW OF DESILTER WHEN EMPTY. SOME SEDIMENTATION IS IN BOTTOM OF "V" SHAPED STRUCTURE

OUTSIDE VIEW OF THE DESILTER CLEANOUT ORIFICE. PERIODICALLY, THE GATE IS OPENED TO FLUSH OUT THE SEDIMENTATION

SCS TECHNICIANS LOOKING AT THE COMPLETED SCREENING DEVICE LOCATED IN THE MOUTH OF KANARRAVILLE CANYON

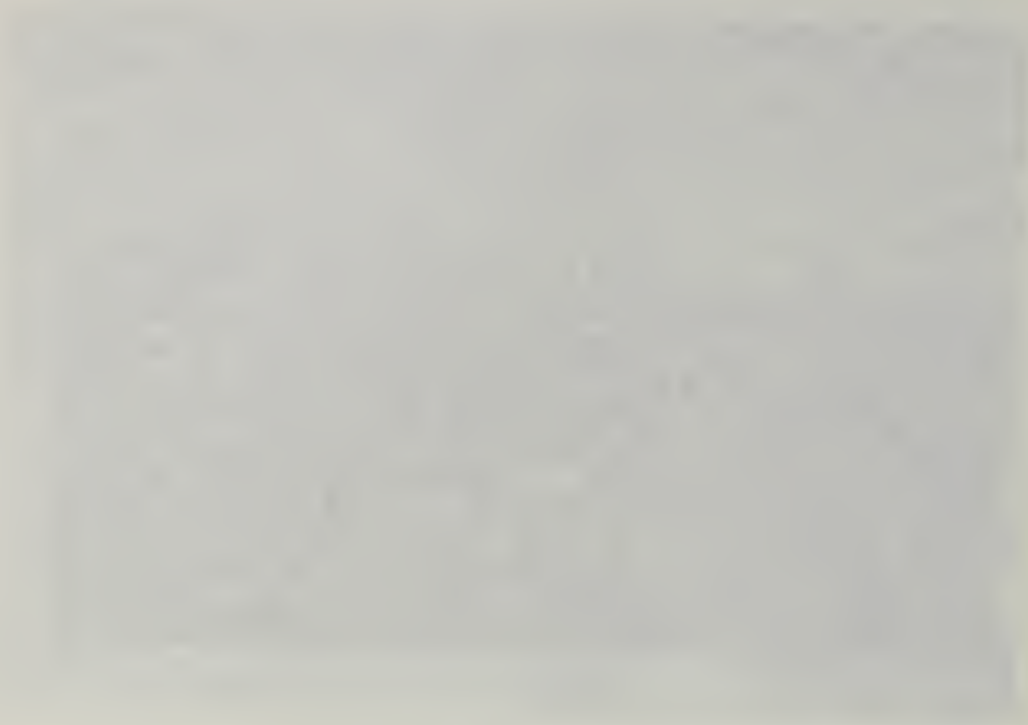
THIS SHOWS THE LOWER END OF A SHORT TUNNEL WHERE THE WATER IS DIVERTED OUT OF THE OLD CHANNEL. FROM HERE THE WATER EMPTIES INTO THE DESILTER

THE PARAGONAH PROJECT

A dream came true in 1977, as 40 Paragonah farmers saw the completion of a project, envisioned and started several years ago. With limited cost-share help in the 1960's these farmers constructed an overnight storage pond near the mouth of Red Creek Canyon. From the pond they installed a system of pipelines which divided the water into three streams and conveyed the water to the head of the fields--southwest of Paragonah, west of Paragonah, and northwest of Paragonah. With the Soil Conservation Service assisting in the design, it was decided that pressure pipe should be used, hoping someday that a series of mainline pipe might be hooked onto these three feeder lines to permit all the Paragonah fields to be irrigated by sprinkler.

Under the 1977 Emergency Drought Conservation Program, 37,744 feet (7.15 miles) of mainline pipe were installed. All of the Paragonah fields can now be irrigated by a gravity-powered sprinkler system. Farmers began to realize late in the 1977 season (after the project was completed) that they could now obtain much more efficiency in the use of their water than ever before. This will continue to be true in the future, especially during the drier years.

Total cost of the project was $102,184. Cost-share assistance received by the 40 participants amounted to $81,747.



JUAB COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		157
Participants	Number		175
Cost-Shares	Dollar		464,896
Average Per Farm	Dollar		2,961
Pooling Agreements - Agreements	Number		25
- Farms	Number		122
- Cost-Shares	Dollar		342,789

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	19	19	Number Ac. Ser.	26 8,830	27,204	.06	1,046.30 3.08
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	144	162	Ac. Ser.	9,107	397,671	.86	43.67
Water Catchments	DC6	40	44	Number Ac. Ser.	1 1,976	33,321	.07	33,321.00 16.86
Emergency Irrigation Water for Cropland	DC20	4	5	Number Ac. Ser.	3 350	6,700	.01	2,233.33 19.14

LEVAN SPRINKLER SYSTEM

A group of individuals farming in the area immediately east of Levan, Utah, faced a very serious problem with the drought conditions in the spring of 1977. With no winter snowpack and no potential for stream runoff, there would be no irrigation water. Many of their neighbors were being seriously hurt but were in somewhat better condition as they farmed west of town and were able to use water from company-owned irrigation wells.

In an effort to alleviate this serious problem, this group joined together and constructed a reservoir and mainline sprinkler line. Built into this system is the option of pumping the one irrigation well into the reservoir located about a mile and one-half east of the well. Any stream runoff at either Chicken Creek or Pigeon Creek can also be diverted through the reservoir and sprinkler system.

This project benefits 18 farmers, serving 700 acres of land at a total cost of $110,147. Cost-share funds amounted to $88,118.

The project was approved on June 20, 1977, and completed in April, 1978.

STORAGE RESERVOIR FOR THE LEVAN SPRINKLER SYSTEM

MILLS PIPELINE AND OPEN CONCRETE DITCH

The farmers in the Mills area of Juab County transport their irrigation water from Chicken Creek Reservoir through miles of narrow canyon area. At the mouth of the canyon the water is diverted into four ditches for distribution to the individual farmers. In past years the ditch from the reservoir to the diversion point was lined with concrete but the four lateral ditches were open dirt.

Ten farmers representing all of the farms in this area joined under a pooling agreement to line the south lateral with concrete and the north lateral with plastic pipe. These two laterals are located above the cropland in rocky, steep terrain which caused an extreme loss of water in transportation. Due to the 1977 drought conditions, this was very critical, as very little of the small amount of available water would reach the cropland.

With the lining of the dirt ditches, what water was available could be put to beneficial use, so in June of 1977, the project was started. There were 8,940 linear feet of open concrete ditch lining and 3,452 linear feet of 15-inch plastic pipe installed at a total cost of $55,838. Cost-share funds amounted to $44,583.

Project was completed on April 25, 1978.

MILLS PIPELINE AND OPEN CONCRETE DITCH

OPEN DIRT DITCH BEFORE PROJECT BEGAN

COMPLETED CONCRETE LINED DITCH

KANE COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		125
Participants	Number		127
Cost-Shares	Dollar		147,887
Average Per Farm	Dollar		1,183
Pooling Agreements - Agreements	Number		5
- Farms	Number		108
- Cost-Shares	Dollar		101,443

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	11	11	Number Ac. Ser.	16 5,253	22,790	.15	1,424.38 4.34
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	107	109	Ac. Ser.	3,627	115,092	.78	31.73
Establishing Permanent Vegetative Cover	DC4	2	2	Acres	120	728	.01	6.07
Reestablish or Improve Permanent Vegetative Cover	DC5	4	4	Acres	753	4,137	.03	5.49
Water Catchments	DC6	3	3	Number Ac. Ser.	5 680	5,140	.03	1,028.00 7.56

KANAB POOLING AGREEMENT NO. 13

This project was approved to replace some of the old earthen ditches in the Kanab area with an underground pipeline system. The ditches involved delivered a valuable and limited supply of water from a storage reservoir to farms below. Over a period of many years, the ditches have eroded to several feet wide and several feet deep. The ditch banks have become overgrown with large cottonwood and poplar trees, willows, and weeds. Due to the size of the ditch and the growth along the banks, it became impossible to clean the ditches. A large amount of water was lost to seepage and held back because of the debris in the ditch.

A total of 54 producers participated in the pooling agreement under practice DC3, Emergency Modification of Irrigation Systems, to install 2,000 feet of 24-inch concrete pipe, 500 feet of 18-inch plastic pipe, and 6,000 feet of 15-inch plastic pipe with alfalfa valves at each producer's field.

By replacing these ditches with pipe, it has eliminated the erosion of the ditches and conserved an immeasurable amount of water. One component of the project is approximately 5,000 feet long. Water in the old ditch previously took over one hour to travel that distance. With the pipeline installed, the water traveled the same distance in 1-1/2 minutes. Also, because of the greater pressure, several producers have installed sprinkler or pipeline systems on their farms and thus conserving on water.

(Continued)

The project provides direct benefits to approximately 2,000 acres of farmland and indirect benefits to the whole area around Kanab.

The total cost of the project was $69,000. Cost-shares approved were $54,624.

Without the aid of the Drought Conservation Program, this project would have never been started or completed.

THESE PICTURES SHOW AREA "BEFORE"
PIPELINE REPLACED DIRT DITCHES

ORDERVILLE POOLING AGREEMENT NO. 17

This project was approved to replace an old dirt delivery ditch with 15-inch plastic pipe. This ditch was flat and shallow and overgrown with willows and wild rose bushes. The undergrowth held back the water and made it hard to keep the ditch clean and free of debris. Due to the flatness and shallowness of the ditch, a large amount of water was lost in seepage and evaporation.

A total of 25 individuals participated under practice DC3, Emergency Modification of Irrigation Systems, to install 3,500 feet of 15-inch plastic pipe. Water traveling in the old ditch took approximately three hours to travel this distance. By installing the pipeline, the time has been cut to 15 minutes with no water lost to seepage or evaporation.

Approximately 500 acres of farmland benefit from the installation of this pipeline by an increased amount of water delivered to those acres.

A total of $17,000, with $13,596 in cost-shares were spent to install the system.

This project would not have been completed if not for the Drought Conservation Program.

MILLARD COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		607
Participants	Number		668
Cost-Shares	Dollar		742,059
Average Per Farm	Dollar		1,223
Pooling Agreements - Agreements	Number		49
- Farms	Number		590
- Cost-Shares	Dollar		512,130

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	30	32	Number Ac. Ser.	20 14,780	36,844	.04	1,842.20 2.49
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	592	652	Ac. Ser.	44,792	681,370	.92	15.21
Reestablish or Improve Permanent Vegetative Cover	DC5	3	3	Acres	5,000	825	.01	.17
Emergency Irrigation Water for Cropland	DC20	8	8	Number Ac. Ser.	4 847	23,020	.03	5,755.00 27.18

MELVILLE IRRIGATION PROJECT

The Melville Irrigation System, located on the west side of the county, consists of miles of large main canals with capacities up to 60 c.f.s., and even more smaller laterals and delivery ditches. The water source is the Sevier River--with this water being diluted with fresh well water. The topography of the area is very flat, and therefore requires large canals to conduct the slow-moving streams. Earthen ditches under these conditions lose a lot of water and tend to waterlog the surrounding land.

The people who make up the Melville Irrigation System have had a complete program designed to line the whole system with concrete to eliminate much of the water loss and speed up delivery time. To fund this tremendously expensive undertaking, these people have borrowed money from the Utah Water Resources Board, and have received some cost-share assistance every year through the Agricultural Stabilization and Conservation Service (ASCS) ACP since 1974. They received $110,000 DCP cost-share funds.

(Continued)

The entire project was so large that it had to be done in phases. It will benefit thousands of irrigated acres.

Before applying for DCP cost-sharing, Phases I through IV had been completed and put into use. The DCP funds were used for Phase V. This phase permitted 6-1/2 miles of canal that skirted the Melville land area on the north and east to be abandoned. Eliminating this earthen canal resulted in a huge water savings for the South Tract division of the Delta Canal System as well as for the Melville Group. The completion of Phase V will put the entire South Tract Section in cement canals with exception of some single stream laterals. It will benefit all stockholders of both the Delta Canal System and the Melville Irrigation System, and some 10,000 acres of cropland. It will make various areas adjacent to the canals much more productive by preventing them from being waterlogged.

In addition to conservation of water and the protection of adjacent lands, the time of water deliveries to the farm has been cut more than half, making it possible to service crops that may otherwise be under stress.

This project was started in the early fall of 1977. All the pads were made (40,500 cubic yards of earth fill) and the plans were to lay the cement lining in October and November. Cold weather, with freezing temperatures in early November, halted the work on the lining, but all the headgate structures and county road crossings (four in all) where reinforced concrete was used, were completed during the winter months.

The lining of about 11,000 linear feet could not be started until frost was out of the pad, and then it started to rain; so for about 60 days no further work could be done. However, the project was reported complete on April 18, 1978.

Water delivery losses in the Melville System have been cut more than 40% even though just the large main canals have been lined. A water savings of 10 acre-feet per day was realized in Phase III in a one-half mile stretch.

The participation from the ASCS in the first four phases was approximately 10% of the total cost of $600,000. The approximate cost of Phase V, which includes road crossings, diversion structures, and concrete lining of canals to carry up to 60 c.f.s. of water, was $170,000. DCP cost-shares amounted to $110,000.

UNLINED PORTION OF THE MELVILLE CANAL. NOTE THE EXCESSIVE SIZE AND EROSION

CONSTRUCTION OF CONCRETE LINING IN THE MELVILLE SYSTEM

STRUCTURES LIKE THIS ARE A LARGE PART OF THE MELVILLE IRRIGATION SYSTEM NOW

CONCRETE LINING ELIMINATES WATER LOSS AND SPEEDS WATER DELIVERY

WILDGOOSE PROJECT

The Holden Irrigation Systems use the water from the Wildgoose and Ebbs Springs northeast of Holden. By the time this water ran through open ditches, seven miles out of the mountain, over half of it was lost. The ditch was difficult to maintain and often broke out when it was needed most because of rodents digging into the banks. It had to be cleaned by hand almost every year.

Cost-share was requested and approved for collection structures and concrete and plastic pipe to conduct the water. The project was to be 36,471 feet of pipe running to town from both springs and delivering the water under pressure for future use in a sprinkling system for the fields below town.

The practice consists of plastic and concrete pipe, three concrete structures, two inlets, and an outlet. There are eighteen watering troughs for cattle and wildlife along the system.

(Continued)

These are constructed of steel panels set in cement, with pressurized water and float valves for efficiency. A large control valve was installed on the bottom of the system to maintain constant pressure on the system. The water from this project will be added to the Holden Irrigation System, and will greatly benefit the 1,280 acres it now serves.

The work was started on October 17, 1977, and was completed on November 29, 1977--37 working days.

Total cost of the project was $162,988. The Division of Water Resources provided a loan of $65,000; ASCS cost-shared with $47,000; and the balance of $50,988 was raised by the 42 individuals involved.

This is where the water used to run. Is it any wonder that over half of it was lost?

THE PIPELINE IS A VERY EFFICIENT CARRIER AND THERE IS ALMOST NO MAINTENANCE NOW

LIVESTOCK WATERING FACILITIES WERE CONSTRUCTED WHEN WATER WENT UNDER GROUND

THE SOURCE OF WILDGOOSE WATER IS SEVEN MILES INTO THESE MOUNTAINS. WATER RAN THROUGH A SMALL, OPEN, EARTHEN DITCH

WILLOWS AND WEEDS HAD TO BE CLEANED OUT OF THE EARTHEN DITCH BY HAND EACH YEAR

MORGAN COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		75
Participants	Number		78
Cost-Shares	Dollar		253,000
Average Per Farm	Dollar		3,373
Pooling Agreements - Agreements	Number		8
- Farms	Number		64
- Cost-Shares	Dollar		211,152

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	33	33	Number Ac. Ser.	27 9,980	13,571	.05	502.63 1.36
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	54	56	Ac. Ser.	1,803	239,429	.95	132.79

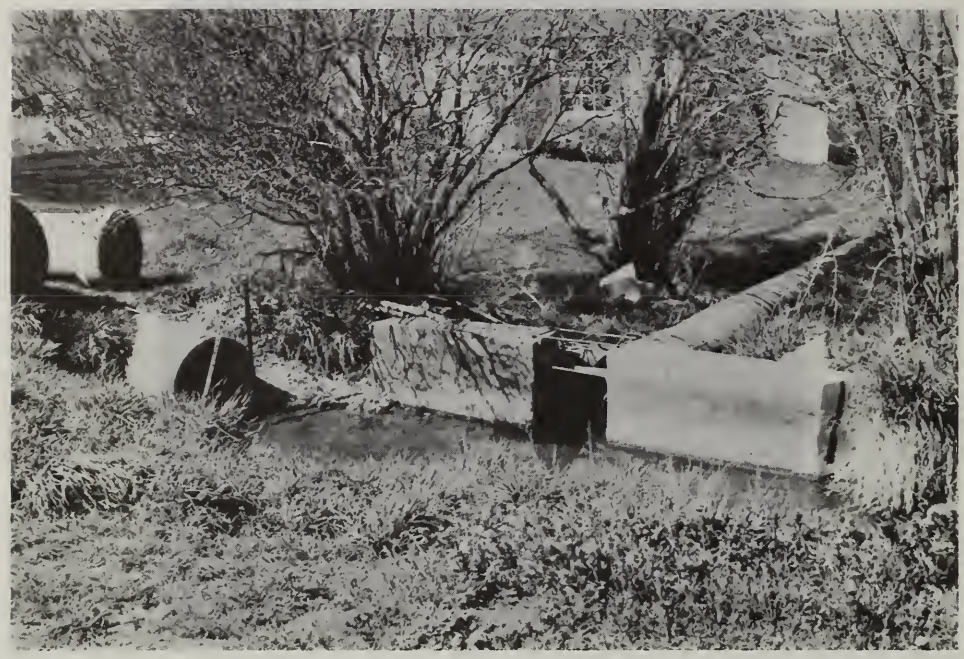
EAST RICHVILLE PROJECT

This project completed under the Drought Conservation Program was an irrigation pipeline and structure installed to replace an old structure and pipeline.

There were leaks in the old structure, the old shut-off gate in the structure would not shut the water off properly, and the pipe had leaks in it--all resulting in a serious loss of water. The new structure was built with reinforced concrete, and the new pipeline is made of 18-inch concrete pipe. This project, now completed, has corrected these problems and resulted in a much needed conservation of water.

It is located just south of Morgan and delivers water from one irrigation ditch to another one down lower in the fields. This pooling agreement has benefited 14 farmers involving 312 acres of land.

The project was started in the fall of 1977 and completed in May of 1978. Total cost of the project was $4,382, with total cost-share payments of $3,332.



"BEFORE" CONSTRUCTION OF PIPELINE,
ON THE EAST RICHVILLE PROJECT

WEST PORTERVILLE PROJECT

The largest project to be completed in Morgan County under the Drought Conservation Program was a large pooling agreement to install a sprinkler irrigation system to replace an old system of dirt ditches and canals.

The project begins with a large diversion and screening box in Hard Scrabble Canyon, then runs down to service 36 farmers in West Porterville. The 8.3 miles of pipeline range in size from 20-inch concrete asbestos pipe at the head of the main-line to 4-inch PVC in the laterals.

The irrigation system services 700 acres of farmland. Most of this acreage is quite unlevel which made flood irrigation very difficult, inefficient, and caused severe erosion problems at times. There was also a serious loss of water with seepage in the old dirt canals and ditches--especially where the growth on the canal banks was dense and hard to clean out. The new gravity-fed sprinkler system solves these problems by delivering a uniform amount of water to the farmland with practically no erosion and no loss of water along the way.

(Continued)

The project was completed at a total cost of $377,536. The 36 farmers received cost-share payments on the main line amounting to $173,060. There were also 12 laterals put in as individual practices, or small pooling agreements. These received cost-share payments amounting to $27,977, making a total cost-share payment from the ASCS of $201,037.

The farmers were able also to get a loan from the Water Resources Board for $144,000 to help with the balance of the cost.

The project was started in the summer of 1977 and completed in May 1978.

NEW DIVERSION STRUCTURE AND SCREENING BOX. SCREENS PREVENT ANY FOREIGN MATERIAL FROM GOING INTO THE PIPELINE

WEST PORTERVILLE PROJECT

20" PIPE INSTALLED JUST BELOW THE DIVERSION WHERE FLOW METER WAS INSTALLED. PROJECT WAS DESIGNED TO CARRY 10 C.F.S.

PIUTE COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		43
Participants	Number		44
Cost-Shares	Dollar		145,881
Average Per Farm	Dollar		3,393
Pooling Agreements - Agreements	Number		6
- Farms	Number		25
- Cost-Shares	Dollar		114,530

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	1	1	Number Ac. Ser.	1 800	132	.01	132.00 .17
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	43	44	Ac. Ser.	2,904	143,949	.98	49.57
Water Catchments	DC6	1	1	Number Ac. Ser.	1 26	1,800	.01	1,800.00 69.23

KOOSHAREM POOLING AGREEMENT NO. 2

This project consists of a mainline for a sprinkler system. The soil in the area is extremely gravelly and over 20 percent of the water was being lost. Flood irrigation was inefficient in the use of the water.

Now completed, the loss has been eliminated and the participants in the agreement can now irrigate more effectively with half of the water formerly used.

A settling pond and 8,460 linear feet of plastic PVC pipe were installed under practice DC3, Emergency Modification of Irrigation Systems. Total cost of the project was $35,602, with cost-sharing in the amount of $23,000 for 9 participants.

The project is located just south of Koosharem in Piute County. The water is received from the Koosharem Reservoir through the Koosharem Canal.

MAINLINE FOR SPRINKLER SYSTEM WAS INSTALLED UNDER THE DROUGHT CONSERVATION PROGRAM

POOLING AGREEMENT NUMBER 2, KOOSHAREM, UTAH

MAINLINE FOR SPRINKLER SYSTEM

SOUTH BENCH CANAL PROJECT - MARYSVALE

The South Bench Canal, located southwest of Marysvale, was losing 50 percent of the irrigation water from the head of the creek to the time the water reached the fields. This loss was magnified with the 1977 drought. As Dee Lynn Fautin, Agent for the group, reported, "I would turn the water down the ditch and my water turn would be over before the water reached the field. After sealing five ponds and installing 12,800 linear feet of 15-inch PVC plastic pipe, I would turn the water in the pipe, jump in my pickup truck, and the water would beat me there."

There were seven participants in this pooling agreement with 560 acres benefited.

This pipeline has reduced water loss to almost zero.

The cost of the project was $68,477, with cost-sharing in the amount of $51,000. It was started in June 1977 and completed in September 1977.

INSTALLATION OF SOUTH BENCH PIPELINE

RICH COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		122
Participants	Number		125
Cost-Shares	Dollar		216,619
Average Per Farm	Dollar		1,776
Pooling Agreements - Agreements	Number		7
- Farms	Number		65
- Cost-Shares	Dollar		131,571

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	22	22	Number Ac. Ser.	47 6,131	37,471	.17	797.26 6.11
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	96	99	Ac. Ser.	2,843	158,461	.73	55.74
Water Catchments	DC6	1	1	Number Ac. Ser.	2 320	187	.01	93.50 .58
Emergency Irrigation Water for Cropland	DC20	3	3	Number Ac. Ser.	2 360	20,500	.09	10,250.00 56.94

A TRIPLE TREAT

In past years the Kearl brothers, Leon and Paul, have been able to irrigate only about two-thirds of their individual farms in the spring of the year with the flow of water that came from snowmelt. Leon would bring what water he could down a ditch, flood irrigate part of his farm, and pump the water from the ditch through portable pipe onto part of his farm. This was all dependent upon his ability to get water down the ditch to where it could be utilized. There was an old pond where storage would take place to build a sufficient stream. In summer and fall, the water supply was much too small to expect much irrigation.

The winter of 1976-1977 was a snow-free winter, so no flush spring water came down from the mountains. Several other farmers had been successful in developing a gravity-feed irrigation system in nearby Cottonwood Canyon under ACP, so the Kearls both felt that perhaps there was a possibility for them to do something similar. They had been advised earlier that this would not be feasible for them. In spite of this advice, Leon approached the SCS with the thought and, after a few preliminary determinations, entered into a pooling agreement with Paul under the Drought Conservation Program--operated through the ASCS office.

The County ASC Committee was favorable to the request and approved $8,500 for the project. Total cost was approximately $11,463.

(Continued)

Work began quite rapidly for the Kearls. The path of the new pipeline would destroy the use of the irrigation ditch, so if any irrigation was to take place, it must be completed quickly. They began work at the pond, putting in a collection outlet box and laying some 300 feet of 10-inch pipe west from the pond. Another 500 feet of 8-inch pipe carried the water west under the county road. Here, the pipeline branched with 600 feet of 6-inch pipe going to Paul's place, where he could hook up his portable pipe and irrigate his farm. 8-inch pipe went south some 1,702 feet from where the pipeline went under the road and then into another 1,200 feet of 6-inch pipe to service Leon with irrigation facilities. This completed the efforts of the Kearl brothers.

Leon said that even last year, in a dry drought year, he was able to raise three times as much as he would have had the project not been done. He feels that probably in a normal year he will still be able to do three times better than he could before. In a drought year, when he can irrigate a full year, he might even do better. Leon said that his pressure is better, he irrigates more evenly, and there is no additional cost for the pressure.

The project was started on June 14, 1977, and completed on September 16, 1977.

COLLECTION OUTLET BOX BEING INSTALLED DURING CONSTRUCTION OF KEARL BROTHERS' POOLING AGREEMENT PROJECT

LAKETOWN CANYON PROJECT

Just how much is water worth? This seemed to be the question asked by some 62 ranchers in the Laketown area of Rich County. These ranchers farm nearly 1,200 acres of cropland and an untold amount of acres of meadow. Meadow hay and other types of feed come from these acreages to support a rather industrious cattle operation in this Bear Lake valley. The irrigation effort of these ranchers includes several irrigation wells and innumerable wet areas that have been developed to a degree so water can be pumped for irrigation. Mountain runoff from spring snowmelt contributes to the supply, as do small streams that run throughout the summer. It is one of these mountain canyon runoff streams that is involved in this project.

In Laketown Canyon, which is typical of other canyons, there is usually a good flow of water in the springtime while the canyon snow melts rapidly. At this time, there is adequate water for irrigation below. However, this condition does not last nearly long enough for the satisfaction of the ranchers in that area.

The stream traditionally dropped to a meager 1/2 to 3/4 c.f.s. as spring and summer merged and the growing season was upon them. An extra dry spring without flush water made the ranchers begin to wonder, "How do we irrigate without water?" Obviously, they started to search for water or at least a more efficient use of water. They found that about a mile and one-half above town, in Laketown Canyon, their little stream was about 1-1/2 c.f.s.

(Continued)

The Soil Conservation Service advised that this little lost stream could go a long way toward watering 225 acres if utilized properly. What's more, they could operate sprinklers completely free of pumping costs. Immediately, the men applied for cost-sharing through the ASCS office and formed a pooling agreement.

The county committee saw the benefits of such an effort and appropriated $32,794 of Drought Conservation Program funds for the development of this system. Total cost of the project was in excess of $42,000.

This project was started on June 14, 1977, and completed on August 24, 1977.

BACKHOE TRENCHING FOR PIPE

COVERED PIPE, PROJECT NEARLY COMPLETED

SAN JUAN COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		98
Participants	Number		98
Cost-Shares	Dollar		119,017
Average Per Farm	Dollar		1,214
Pooling Agreements - Agreements	Number		3
- Farms	Number		43
- Cost-Shares	Dollar		38,103

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	33	34	Number Ac. Ser.	59 13,526	39,219	.33	664.73 2.90
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	53	52	Ac. Ser.	1,789	64,777	.54	36.21
Water Catchments	DC6	12	12	Number Ac. Ser.	31 5,290	15,021	.13	484.55 2.84

DCP FOR MONTICELLO

A project approximately five miles north of Monticello was developed by five farmers to benefit 200 acres. This was a modification of an irrigation system involving 8,320 feet of 12-inch pipe which replaced an open ditch that wound around through the fields for approximately three miles. This ditch, needless to say, did not deliver water to the cropland during low water years as well as the later part of the summers.

This completed project will now make it possible for this land to receive water throughout the irrigation period, whereas in the past, the water did not reach the farmers after the first part of July. The completed project increased the water capacity about 70%, therefore making it possible for these individuals to raise two to three crops of alfalfa hay in support of their livestock operations. This included approximately 100 acres of alfalfa hay and 100 acres of small grains. In previous years, farmers were lucky to get one crop.

This project was started May 31, 1977; but due to the shortage of pipe fittings, it was not completed until October 20, 1977.

Total cost of this project was $39,735 with cost-share amounting to $31,788.

OPEN DITCH 5 MILES NORTH OF MONTICELLO,
BEFORE PIPELINE CONSTRUCTION

COVERED PIPELINE ON COMPLETED PROJECT
UNDER DROUGHT CONSERVATION PROGRAM

SPANISH VALLEY PROJECT

When the DCP was announced last year with funding available at 80% of cost, a lot of interest was stirred among seven individuals who depend on the water supply out of the LaSal Mountains through the drainage called Pack Creek to irrigate their dry lands. The area is approximately eight miles southeast of Moab, formerly called Poverty Flats, and now carries the name of Spanish Valley. This area involves approximately 340 acres--mainly supportive of livestock operations.

The farmers decided to pool their resources and install some pipe to see if it was possible to make the water reach their farms. The open ditch, after being diverted out of Pack Creek, ran down through a rocky, gravelly valley for approximately two miles. In low water years, and in the hot parts of the summer between July and September, the volume of water was not sufficient to reach the farms. In 1977, as early as May, the water was reaching only half way to these farms.

Therefore, they decided to apply for the Drought Conservation Program and install as much pipe as they could receive cost-share on. They made a request for a project estimated to cost $50,000, of which they requested $40,000 in cost-share. This consisted of 5,000 feet of 12-inch plastic pipe with two water control structures. The total cost was $51,332.

(Continued)

This project was started June 24, 1977, but due to the shortage of pipe fittings, was not completed until October 25, 1977.

After completion of the project, the farmers were receiving water to their farms. The farmers in this area are now very grateful for the increased amount of water they have.

PICTURES SHOW AREA BEFORE INSTALLATION OF PIPELINE

SANPETE COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		500
Participants	Number		510
Cost-Shares	Dollar		1,398,700
Average Per Farm	Dollar		2,797
Pooling Agreements - Agreements	Number		42
- Farms	Number		472
- Cost-Shares	Dollar		1,304,076

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	4	4	Number Ac. Ser.	4 3,325	5,790	.01	1,447.50 1.74
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	496	506	Ac. Ser.	20,766	1,392,910	.99	67.08

THE WATERSHED IN BACKGROUND WILL SOON FILL THIS PIPELINE WITH WATER FOR THE FARMLAND. OTHER YEARS MUCH OF THE WATER WOULD HAVE BEEN LOST.

JOHN SYME ADJUSTS HIS HAT AND WAITS FOR ANOTHER 2,400 POUND SECTION OF PIPE TO BE LAID IN A FOUR-MILE LONG WATER CONSERVATION PROJECT ON THE M & M CANAL

M & M IRRIGATION PROJECT

The old ditch which carries water from the Sanpitch River to the farms in the Moroni-Fountain Green area is some 22 miles long and follows an almost flat gradeline. The ditch meanders around the edge of the hills. There were always serious water loss problems because the slow-moving stream was lost in the porous soils and the moss-covered banks. During the drought year, farmers on the lower end of the ditch realized no water at all.

(Continued)

Under Practice DC3, Emergency Modification of Irrigation Systems, of the Drought Conservation Program, 43 farmers joined together in a pooling agreement. The lower five-mile section of the ditch was eliminated by installing 18,200 linear feet of 24-inch pipe--with necessary dividers and valves to control the water.

The project began about 3 miles north of Moroni, Utah, extending on nearly to the town of Moroni, then circling east past the north edge of the city. The water from this pipeline will help provide irrigation water for at least 800 acres of land.

Total cost of the project was $425,000; cost-shares amounted to $208,000.

This project, long dreamed of by the farmers, could not have been accomplished without the financial assistance which they received.

TWIN CREEK EAST PROJECT

This project is located about one mile southeast of Mt. Pleasant, Utah. The 434 acres of land which will benefit from this project are located southeast and south of Mt. Pleasant, and will serve 18 farmers.

Under practice DC3, Emergency Modification of Irrigation Systems, of the Drought Conservation Program, this project will pick up direct streamflow from the watershed and bring it into a regulating reservoir from which pipelines carry the water to the farms. The old ditch system crosses old flood plains. These soils are rocky and porous. The ditches did distribute water during high water, but serious losses occurred at other times because of the condition of the ditches and the water losses.

(Continued)

The old ditch system will be kept to control and use excess water. The reservoir will provide a steady flow of water--carried under pressure--to the farms in pipelines. Standpipes will make water available on the farm where it can be used more efficiently. This plan will provide a good supply of water during periods of low streamflow and make the most beneficial use of water.

A total of 29,390 linear feet of pipe--ranging in size from 4-inch to 15-inch--was installed.

Total cost of the project was $105,000; cost-shares amounted to $80,000.

The project was started on September 20, 1977, and completed on April 28, 1978.

DUANE MARSH CHECKS A VALVE ON THE TWIN CREEK PROJECT, MT. PLEASANT, UTAH AREA

SEVIER COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		190
Participants	Number		199
Cost-Shares	Dollar		536,938
Average Per Farm	Dollar		2,826
Pooling Agreements - Agreements	Number		36
- Farms	Number		142
- Cost-Shares	Dollar		388,025

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	5	5	Number Ac. Ser.	6 336	6,166	.01	1,027.67 18.35
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	187	196	Ac. Ser.	7,667	530,772	.99	69.23

ELSINORE CANAL PROJECT

The Elsinore Canal is located south of Elsinore, Utah, in an area that is relatively flat; consequently, water loss amounted to over 35 percent in a normal year. With the installation of 23,000 linear feet of concrete ditch lining under practice DC3 of the Drought Conservation Program, this loss has been reduced to below 15 percent.

The project involved a pooling agreement with 47 participants and will benefit 1,200 acres of cropland.

The total cost of the project was $141,450, with cost-sharing in the amount of $93,000.

It was started in September 1977, and completed in December 1977.

ELSINORE CANAL LINING UNDER CONSTRUCTION

ELSINORE CANAL CONCRETE LINING PROJECT

BEFORE
CONSTRUCTION

AFTER
COMPLETION

GATE 16 IRRIGATION PROJECT
ELSINORE, UTAH

This project consists of 10,321 linear feet of plastic PVC pipeline to be used with gated pipe. Approximately 40 percent of the water was being lost due to seepage. This loss has been curtailed by the installation of the pipe under practice DC3 of the Drought Conservation Program. The installation of the pipe has reduced the water loss, prevented erosion, and cut down considerably on the time needed to irrigate a field.

The project is located just north of the Elsinore city limits starting from the Sevier Valley canal.

There are seven participants in this pooling agreement with a total cost of $47,113; cost-sharing in the amount of $29,500.

Approximately 150 acres have benefited from this project. It was started in June 1977, and completed in October 1977.

GATED PIPE IN USE FROM THE PIPELINE INSTALLED

SUMMIT COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		60
Participants	Number		62
Cost-Shares	Dollar		132,110
Average Per Farm	Dollar		2,202
Pooling Agreements - Agreements	Number		5
- Farms	Number		22
- Cost-Shares	Dollar		88,180

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	9	9	Number Ac. Ser.	44 12,450	10,525	.08	239.20 .85
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	51	53	Ac. Ser.	1,861	121,585	.92	65.33

MIDDLE CHALK CREEK POOLING AGREEMENT

In addition to the problem of running the irrigation stream two miles around a steep hillside, these five farmers had to run their stream past approximately 40 openings and headgates that passed along the main ditch of the small town of Coalville. As a result, each time it was their turn to take the irrigation water, they had to go along the ditch and see that the 40 headgates and ditch openings were securely closed. There was also the usual problem of seepage and ditch bank washouts which exist on a hillside ditch.

In order to alleviate both problems, these five farmers signed up for a pooling agreement with the Summit County ASCS Office for a DC3 practice, Emergency Modification of Irrigation System, in order to install a sprinkling system. By changing the diversion point and bringing the water directly from Chalk Creek, they eliminated the two-mile ditch, and the 40 headgates and openings which they had previously had to contend with.

This project, which was begun July 1, 1977, and completed August 20, 1977, resulted in the sprinkling of 100 acres. The cost of the mainline sprinkler was $20,000 and they received $15,000 in DCP cost-share.

The benefits resulting from this practice are: improved irrigation efficiency, better distribution of water, and less sediment buildup in the ditch.

FARMERS OBSERVING CONSTRUCTION OF NEWLY INSTALLED PIPELINE

SUNRISE IRRIGATION COMPANY
POOLING AGREEMENT

The conservation problem facing this irrigation company located in Woodland, Summit County, was running their irrigation stream around a steep hillside which had proved to be unstable. They were losing approximately one-third of their irrigation stream from high seepage and frequent ditch bank washout, causing a delay of the irrigation water reaching the crops and also the added expense of ditch repair. In addition, farms and residences which are located below the ditch were sustaining damage from the seepage and flooding.

This group of nine farmers signed for a pooling agreement with the Summit County ASCS Office to install a pipeline to transport this water from the river to the farmland. This was under practice DC3, Emergency Modification of Irrigation Systems.

Work was begun on the project on July 15, 1977, and completed November 1, 1977. During this period, 5,410 linear feet of 30" C.M.P. pipe was installed.

Total cost of the project was $76,732, with the farmers receiving cost-share in the amount of $57,548.

Over 800 acres of cropland has benefited from this pipeline; the seepage problem has been eliminated, saving these farmers at least one-third of their irrigation water; and the buried pipeline has made the bank washout problem non-existent, therefore, improving relations with residents and landowners located below this pipeline.

FINISHED PROJECT - SUNRISE IRRIGATION COMPANY
POOLING AGREEMENT

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		141
Participants	Number		142
Cost-Shares	Dollar		324,329
Average Per Farm	Dollar		2,300
Pooling Agreements - Agreements	Number		8
- Farms	Number		134
- Cost-Shares	Dollar		309,455

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	1	1	Number Ac. Ser.	1 14	2,080	.01	2,080.00 148.57
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	136	137	Ac. Ser.	4,137	318,213	.96	76.92
Reestablish or Improve Permanent Vegetative Cover	DC5	1	1	Acres	120	800	.01	6.67
Water Catchments	DC6	2	2	Number Ac. Ser.	5 460	736	.01	147.20 1.60
Emergency Irrigation Water for Cropland	DC20	1	1	Number Ac. Ser.	1 30	2,500	.01	2,500.00 83.33

LAKEPOINT IRRIGATION PROJECT

The Lakepoint Irrigation Project was approved for installing some 5,255 feet of canal lining under the 1977 Drought Conservation Program. The four-mile canal (E. T. Canal) is located in the far northeast end of Tooele County and runs through the small community of Lakepoint.

The canal lining was necessary to reduce severe water loss through seepage. Virtually all of the water was lost by the time it got to the end of the canal. Eight c.f.s. of water is available at the head of the four-mile long canal, and by the time the water reached the farm at the lower end, there was not enough water for effective irrigation. The seepage problem also caused the loss in production of approximately 70 acres of cropland because of water logging.

Under the 1976 ACP, the group put in 3,026 feet of canal lining. These two projects were installed to help solve a most serious water seepage problem area in the canal. Now completed, the new canal lining will not only save more water, but has made it possible to reclaim most of the land damaged by waterlogging.

Two hundred acres of cropland have benefited from this project, which was started in November, 1977, and reported complete on May 15, 1978. Ten farmers participated.

Total cost of the project was $30,000, with cost-shares amounting to $19,119.

LAKEPOINT IRRIGATION PROJECT - BEFORE INSTALLATION

PAD PREPARATION DURING INSTALLATION OF CANAL LINING

ST. JOHN IRRIGATION PROJECT

The St. John Irrigation Project consisted of laying 2-1/2 miles of pipeline from Clover Creek to the town of St. John. St. John is located approximately 16 miles south of Tooele at the base of the Onaqui Mountains.

Because the St. John water users must use an open ditch to divert their water 2-1/2 miles to their cropland, a significant amount of water was lost due to seepage and evaporation. Especially last summer when, at one point, approximately 1.5 c.f.s. of water was being diverted into the ditch and only enough water was getting to St. John to water livestock. Normally about 7.4 c.f.s. of water is diverted into the St. John ditch for a practical period of time and then drops to 1 to 2 c.f.s. of water in the fall. Most years there has been enough water for the St. John area to get a third crop of hay, but last year most farmers got only a partial second crop.

The pipeline will now allow all the water that is diverted from Clover Creek to reach St. John. This meant a savings of over 1 c.f.s. last year.

Although the pipeline does save a great deal of water, there is still water being lost where the water leaves the pipeline and goes in the fields; also through the application of water onto the fields. To solve this problem, the pipeline was designed to be incorporated into a pressure irrigation system at a later

(Continued)

date. The St. John water users are planning to put in the pressure system this year with the help of Water Resources and also under the 1978 ACP. To complete the pressure system, it is estimated that it will cost another $75,000 to $100,000.

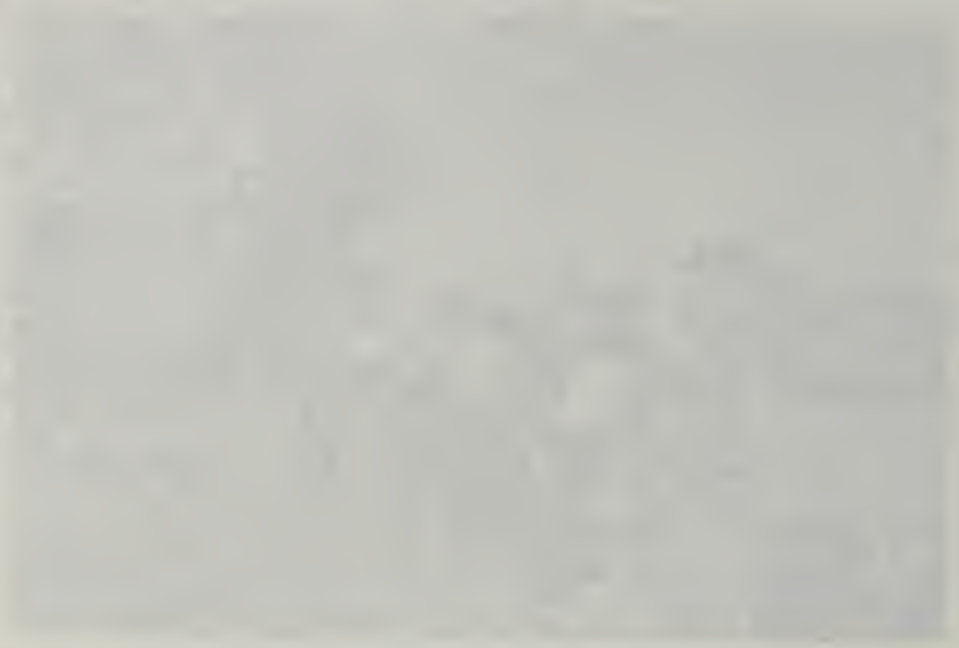
The St. John pipeline was started in September, 1977, and reported complete on May 25, 1978. It is benefiting 500 acres of cropland.

Twenty farmers have earned $78,677 in cost-share assistance on the project which contains: 9,003 feet of 15-inch PVC pipe; 2,562 feet of 12-inch PVC pipe; 1,229 feet of 10-inch PVC pipe; and a desilting and equalizing pond with related structures.

Total cost of the project was over $102,000.

INSTALLING PIPELINE ON THE ST. JOHN IRRIGATION PROJECT

FARMERS IN THE ST. JOHN AREA OF TOOELE COUNTY
OBSERVING INLET STRUCTURE



UINTAH COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		412
Participants	Number		420
Cost-Shares	Dollar		461,485
Average Per Farm	Dollar		1,120
Pooling Agreements - Agreements	Number		12
- Farms	Number		365
- Cost-Shares	Dollar		333,049

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	36	37	Number Ac. Ser.	62 73,452	48,289	.10	778.85 .66
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	370	390	Ac. Ser.	30,390	406,996	.89	13.39
Water Catchments	DC6	6	6	Number Ac. Ser.	10 6,585	6,200	.01	620.00 .94

GRASSHOPPER FLAT PIPELINE

In the summer of 1977, 302 farmers, involving eight different irrigation companies, joined together under Pooling Agreement No. 4 to correct an erosion and water loss problem on the Ashley Valley Reservoir Canal through Grasshopper Flat under practice DC3 of the 1977 Drought Conservation Program.

The Reservoir Company had lost an appeal with the U.S. Forest Service and would lose their canal right-of-way and reservoir storage, along with $22,000 in escrow, if the pipeline was not completed in 1977.

There were 300 feet of 30-inch concrete pipe and 4,460 feet of 24-inch concrete pipe installed, which eliminated a water loss and corrected a large gully that had increased in size each year, and which deposited tons of sediment into the Reservoir Company's irrigation system. This project, now completed, will benefit 21,426 acres of land.

Total cost of the project was $181,735. Cost-share payment was $112,319.

The project was started in July, 1977, and completed on October 26, 1977.

CONSTRUCTION WORK PROGRESSES ON THE GRASSHOPPER FLAT PORTION OF A DCP PROJECT TO CORRECT AN EROSION AND WATER LOSS PROBLEM

AREA OF COMPLETED PROJECT

LATERAL SIX PROJECT

Under the 1977 DCP, the stockholders of Lateral Six of the Ashley Central Canal were able to install 2,222 feet of 20-inch AC pipe and 2,023 feet of 18-inch AC pipe along with the necessary inlet and outlet structures.

The old ditch was badly eroded as it meandered through good cropland. The ditch had grown up with willows and other woody plants. The water loss was excessive and the ditch was difficult to clean and maintain. The pipeline will correct a serious water loss and erosion problem.

The project was completed under practice DC3, Emergency Modification of Irrigation System.

The project was accomplished under Pooling Agreement #7. There are 66 stockholders on the "Lateral", 22 of whom are farmers.

The project cost $87,247. The cost-share payment was $64,475.

The project will benefit 776 acres.

The project was started in October 1977 and was completed in May 1978.

OLD LATERAL SIX DITCH BEFORE PIPELINE WAS INSTALLED

LATERAL SIX PIPELINE BEING BACKFILLED

LARUE PICKUP, CHAIRMAN, UINTAH ASC COMMITTEE, EXAMINES THE INLET STRUCTURE FOR THE LATERAL SIX IRRIGATION PIPELINE

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		402
Participants	Number		443
Cost-Shares	Dollar		418,203
Average Per Farm	Dollar		1,040
Pooling Agreements - Agreements	Number		19
- Farms	Number		371
- Cost-Shares	Dollar		327,906

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	4	4	Number	22			260.82
				Ac. Ser.	6,370	5,738	.01	.90
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	402	439	Ac. Ser.	5,900	405,128	.97	68.67
Emergency Irrigation Water for Cropland	DC20	3	3	Number	3			2,445.67
				Ac. Ser.	260	7,337	.02	28.22

EAST BENCH CANAL

The East Bench Canal Project is located near the mouth of Spanish Fork Canyon. The problem of losing water through seepage has now been corrected with the installation of 3,280 feet x 3.5 - 4.3 feet depth with a 3-foot bottom concrete ditch lining. A better control of water will also be maintained with the installation of gates and structures.

Approved under practice DC3, Emergency Modification of Irrigation Systems, this project will benefit 145 farms involving 2,000 acres of land.

Total cost of project is $56,200, with cost-shares amounting to $43,925.

The project was started in May 1977 and completed in April 1978.

UTAH COUNTY CED, DOUGLAS SIMKINS, INSPECTING DITCH LINING NEAR MOUTH OF SPANISH FORK CANYON

CEDAR VALLEY PROJECT

The Cedar Valley Project is located just north of the town of Cedar Fort in West Canyon. For years a great amount of water was lost through this area due to seepage in an old dirt ditch which ran for five miles.

Under practice DC3, Emergency Modification of Irrigation Systems, this pipe lining project, now complete, will serve 25 farms involving 1,200 acres of land. The water which is available will be delivered when needed to the Cedar Fort area, whereas during the 1977 summer, water reached this area only once.

Cost of the project was $184,000 for five miles of 18-inch plastic pipe. Cost-share amounted to $147,200.

The project was started in August 1977 and completed on April 30, 1978.

OLD CREEKBED OF DITCH THAT DELIVERED WATER TO
CEDAR FORT AREA FROM WEST CANYON

OLD CREEKBED OF DITCH LOCATED NORTH OF CEDAR FORT

PIPELINE UNDER CONSTRUCTION, LOCATED NORTH OF CEDAR FORT, WHICH WILL DELIVER WATER FROM WEST CANYON TO FARMLANDS IN CEDAR FORT AREA

WASATCH COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		87
Participants	Number		89
Cost-Shares	Dollar		456,175
Average Per Farm	Dollar		5,243
Pooling Agreements - Agreements	Number		11
- Farms	Number		77
- Cost-Shares	Dollar		436,529

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	2	2	Number Ac. Ser.	8 3,900	1,934	.01	241.75 .50
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	103	104	Ac. Ser.	3,474	454,241	.99	130.75

WALLSBURG VALLEY PROJECTS

The Wallsburg valley is situated approximately eight miles south of Heber valley and southeast of Deer Creek Reservoir. It has approximately 2,560 acres of cropland which are irrigated by two streams, Main Creek and Hobble Creek. These streams are fed by a watershed of approximately 63 square miles (40,320 acres).

In the past, the biggest problem facing farmers in the Wallsburg valley has been excessive water in the spring and insufficient water later on in the growing season. Compounding this is the problem of extreme water loss due to the porous soils through which irrigation water must travel. Another problem created by the variable water problem is that farmers, in an effort to obtain as much benefit as possible from plentiful springtime water supplies, have been over-irrigating their ground--inhibiting normal spring growth and contributing to an excessively high water table in lower areas.

When funds became available under the 1977 Drought Conservation Program, the farmers in Wallsburg valley were quick to see the opportunity to alleviate their water problems by installing sprinkler systems. They organized themselves under four pooling agreements and were approved cost-share monies by the Wasatch County ASC Committee.

Thirty-seven farmers participated. There were 75,736 feet (14.3 miles) of piping installed at an approximate cost of $310,264 ($267.93 per acre). Government cost-share was approximately 67 percent, with 1,158 acres benefiting. The project began in early July 1977 and was completed the middle of December 1977.

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There are now approximately 1,464 acres of the crop-raising ground in the valley under sprinkler irrigation. It is expected that more spring runoff will now enter Deer Creek Reservoir to the benefit of Provo River water-users. Wallsburg farmers, under the new irrigation system, believe that water shortage later on in the growing season will require the different sprinkler systems and remaining flood systems to go on turns.

Efforts are now being made to obtain the right to drill wells in trade for the larger amount of early water that is expected to enter Deer Creek Reservoir from the Wallsburg watershed. If this effort is successful, along with present accomplishments, Wallsburg farmers should be able to greatly alleviate past water problems and reap the benefits of creating a system to conserve the lifeblood of Utah farming - WATER.

REGULATING RESERVOIR

FORMER COC CHAIRMAN, REED FORD, STANDING ON THE DIVERSION STRUCTURE FOR SPRINKLING SYSTEM

FIELDS NEAR WALLSBURG VALLEY PROJECT NOW UNDER SPRINKLER SYSTEM

WASHINGTON COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		233
Participants	Number		233
Cost-Shares	Dollar		409,617
Average Per Farm	Dollar		1,758
Pooling Agreements - Agreements	Number		15
- Farms	Number		186
- Cost-Shares	Dollar		309,962

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	4	4	Number Ac. Ser.	11 15,322	4,543	.01	413.00 .30
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	217	217	Ac. Ser.	6,352	383,462	.94	60.37
Water Catchments	DC6	7	7	Number Ac. Ser.	8 1,821	9,616	.02	1,202.00 5.28
Emergency Irrigation Water for Cropland	DC20	5	5	Number Ac. Ser.	5 198	11,996	.03	2,399.20 60.59

ENTERPRISE RESERVOIR AND CANAL

The severe drought of 1977 left the Northern Washington County farming community of Enterprise, Utah, very hot and thirsty. Irrigation during the 1976 crop year lowered both Enterprise reservoirs to virtually nothing. Coupled with the extreme lack of precipitation during the winter of 1976, the 1977 irrigation season commenced with producers having only 15 minutes of water per share.

Nearly everyone in Enterprise is associated with farming in one aspect or another; therefore, the lack of water had a major impact on the community. But, with all its bad effects, the drought also stimulated a few innovative farmers to search out ways to capture water which was being lost.

Located directly west of Enterprise is a canyon which has marshy land in the bottom. It has been estimated that as much as 2 c.f.s. of water may be moving down this canyon under the marsh but is unable to be utilized.

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The first proposal which was presented to the county committee and studied by the Soil Conservation Service was a grout curtain across a narrow spot in the canyon. The proposed curtain would extend down to bedrock, forcing the water to rise in order to escape over the top. It would then be collected in a pipeline and piped directly into the irrigation system.

Because of the excessive cost involved, this first proposal was abandoned by the Enterprise group in favor of the less expensive pipeline collection system.

The county committee approved this project for $48,000 cost-sharing under the Drought Conservation Program. Trenches were dug for the 6,467 feet of 12-inch drain pipe and pipe was surrounded by gravel to facilitate collection. Another 3,000 feet of PVC pipe was installed to transport the reclaimed water into the present irrigation system.

Thirty-three Enterprise farmers participated in this project. Approximately 2,450 acres will be benefited by the increased water supply provided.

This project was completed on December 15, 1977, and because of the wet winter and abnormally high runoff this spring, it is not yet known just how much water has been gained. However, any water which has been lost that can be saved and put to productive use will be appreciated--especially in the dry years. This project will provide that water, and it should be there for many, many years.

DIGGING TRENCH AND LAYING PIPE

ENTERPRISE RESERVOIR AND CANAL

AREA BEFORE PLACEMENT OF PIPE

END OF PIPELINE AFTER PLACEMENT

VIRGIN IRRIGATION PIPELINE

Located in Eastern Washington County is a small farming community known as Virgin, Utah. Like most of the irrigated land in Washington County, the farms in this community are dependent upon the Virgin River for their life-sustaining water.

In order to provide adequate elevation, along with the necessity of locating a suitable spot for a permanent structure, the Virgin Diversion had to be constructed five miles up the river from the irrigated land. The resulting transportation ditch wound through sand and rocks, crossing washes and other obstructions as it worked its way toward its destination. Consequently, much water was lost through seepage in this earthen ditch.

The producers who use the water from this system have worked through the years, trying to line the ditch in small sections. It has been an expensive task for a relatively few farmers. Much water has been lost through the years in this delivery system.

On May 17, 1977, Kenneth Cornelius, acting as Agent for the Virgin Irrigation Group, signed up for 3,700 feet of pipeline under the Drought Conservation Program. The county committee, acting on this request, approved it for $30,000 cost-sharing subject to a needs determination by the Soil Conservation Service. Due to the size of the project, SCS had to survey the entire ditch so that future projects up the ditch would tie in

(Continued)

with the proposed pipeline. Upon learning that additional funding under the DCP had become available, Mr. Cornelius requested consideration by the county committee for an increase in extent and cost-sharing, citing the fact that engineering work was completed, and it would be a real boost in completing most of their project.

The county committee did approve the increase to 11,000 feet of pipeline and cost-sharing to $60,000.

This project was completed on December 28, 1977, at a total cost of approximately $76,980, and is saving much valuable water for the thirteen producers who participated in it. These producers performed the labor that was involved in constructing this pipeline. Over two miles of open ditch have now been filled in, providing safety and eliminating those unsightly ditch-bank weeds and willows, beautifying the landscape for tourists as they pass through Virgin on their way to Zions National Park.

All in all, the project rates as a great success.

POINT OF DIVERSION WHERE VIRGIN CITY TAKES WATER OUT OF THE RIVER

"BEFORE" SHOT OF PIPELINE PROJECT

"AFTER" SHOT OF PIPELINE PROJECT

OBSOLETE FLUME BYPASSED BY NEW PIPELINE

EARTHEN DITCH REPLACED BY NEW PIPELINE

115-FOOT STEEL PIPELINE ACROSS STREAM DURING CONSTRUCTION

DIVERSION/REGULATING STRUCTURE

COVERING PIPE WITH GRAVEL

COVERED TRENCH (TRANSPORTATION LINE)

WAYNE COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		67
Participants	Number		69
Cost-Shares	Dollar		103,369
Average Per Farm	Dollar		1,543
Pooling Agreements - Agreements	Number		4
- Farms	Number		60
- Cost-Shares	Dollar		92,008

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	3	3	Number Ac. Ser.	3 1,400	1,382	.01	460.67 .99
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	63	66	Ac. Ser.	1,441	101,480	.98	70.42
Establishing Permanent Vegetative Cover	DC4	1	1	Acres	60	507	.01	8.45

BULLBERRY POOLING AGREEMENT NO. 6

Practice DC3, Emergency Modification of Irrigation Systems For Conservation of Water, authorized under the Drought Conservation Program for 1977, has solved the water shortage problem for the people of Teasdale. The old water distribution system lost 30 percent of the water available at the head of the irrigation system which served the Teasdale community and surrounding farms.

The installation of 29,332 feet of plastic pipe--ranging in size from three inches to ten inches--now delivers the water of Bullberry Creek to thirty-one eligible agricultural producers.

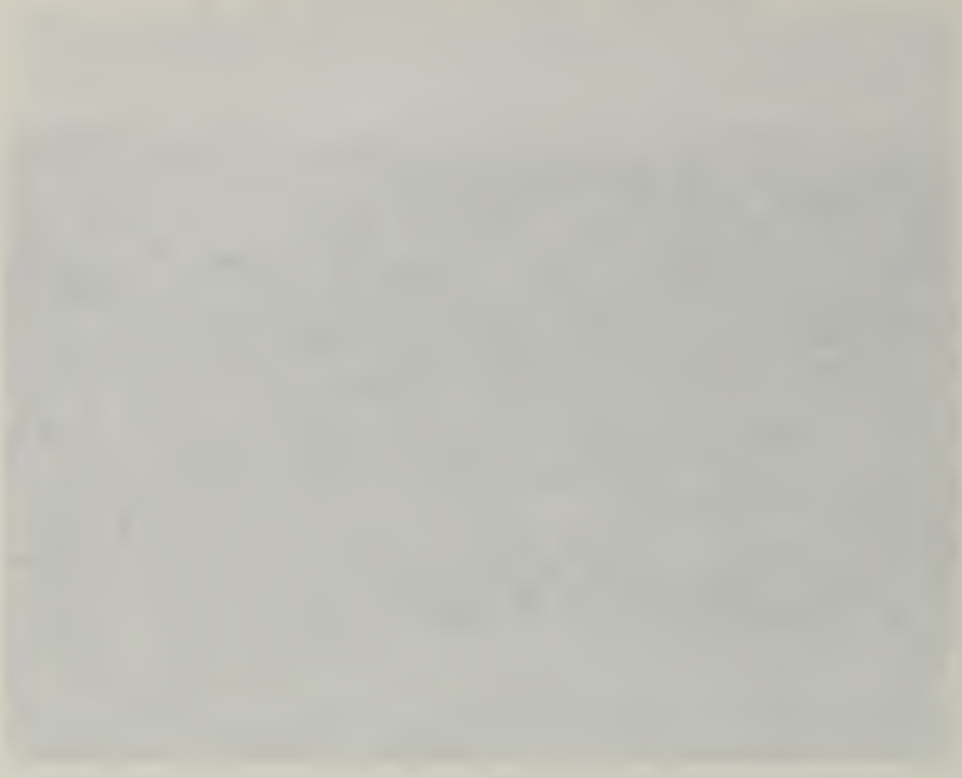
Installation work began September 15, .1977, and was completed April 24, 1978.

Costs for materials and installation amounted to $74,393, with $40,735 cost-share.

OPEN TRENCH DURING CONSTRUCTION OF BULLBERRY PROJECT

DWIGHT WILLIAMS AND KEITH TAYLOR INSTALLING PLASTIC PIPE THROUGH TEASDALE

VIEW OF BULLBERRY POND DURING CONSTRUCTION



TORREY SAND CREEK POOLING AGREEMENT NO. 1

The water of Sand Creek was severely reduced due to drought and the farms and orchards were without water. Several meetings were held with the farmers involved, and on May 16, 1977, with Clyde Behunin as Agent, they filed a request for federal cost-shares under practice DC3, Emergency Modification of Irrigation Systems, with the Wayne County ASCS Office. The estimated cost of the proposed sprinkler irrigation system was $50,000.

The Wayne County Committee, in their meeting held June 6, 1977, approved $40,000 DCP cost-shares for the project. Nineteen eligible farmers participated with a total of 260 acres of irrigated land involved.

The project was started October 11, 1977, and completed in April 1978. 28,890 feet of pipe--ranging in size from 3-inch to 12-inch--were installed.

Total cost amounted to $75,354; DCP cost-shares of $40,000 were paid to eligible producers on April 19, 1978.

Because of the Drought Conservation Program, the farms on Sand Creek will never again suffer a drought like the summer of 1977.

PIPELINE BEING INSTALLED DURING CONSTRUCTION
OF TORREY SAND CREEK PROJECT

EARTHEN DITCH PRIOR TO INSTALLING PIPELINE

WEBER COUNTY

PARTICIPATION AND PAYMENTS

Item	Unit	Extent	Total
Participating Farms	Number		365
Participants	Number		370
Cost-Shares	Dollar		272,577
Average Per Farm	Dollar		747
Pooling Agreements - Agreements	Number		28
- Farms	Number		307
- Cost-Shares	Dollar		199,984

CONSERVATION PRACTICES - DCP

Practice Name	Practice Number	No. of Farms	No. of Partic.	Unit	Extent	Cost-Shares	% of County Total	Average Rate Per Unit
Developing Livestock Water to Prevent Erosion	DC2	3	3	Number Ac. Ser.	91 70	533	.01	5.86 7.61
Emergency Modification of Irrigation Systems for Cons. of Water	DC3	362	367	Ac. Ser.	10,871	272,044	.99	25.02

POOLING AGREEMENT NO. 12

This project was a Pooling Agreement located on the east end of the Wilson Canal. The total cost of the project was $69,730; cost-shares amounted to $31,911. Now completed, 136 farmers will benefit from the extra water received because of the project.

This is part of the concrete lining installed under DCP in 1977. The total length of the ditch was 2,375 feet. It required 455 cubic yards of concrete including 18 cubic yards of reinforced concrete.

A close look will show weep valves installed in the bottom of the canal to allow underground water to come in the canal and not float or damage the structure. They are installed every 10 feet.

This picture shows the workmen giving the final touches to the raw bank and sloping it to the required 1-1/4 - 1 foot side slope. Gravel was placed in the bottom to provide a better base for the concrete and also to serve as a drain for the weep valves to function properly.

With the bank and bottom graveled and finishing touches complete, a steel boat will be lifted in the ditch come morning and the next 1,000 feet will be poured in a few hours.. The sand hill will be removed before the job is complete.